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A Descriptive Study of Extremes in Academic Self-Concepts

by

© Alyce Oosterhuis

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

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IN

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FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled A Descriptive Study of Extremes in Academic Self-Concepts submitted by Alyce Oosterhuis in partial fulfilment of the requirements for the degree of Master of Education.

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Abstract

The present research investigated the differences between groups of elementary school children who had been identified as having extremely high or low academic self-concepts. Group differences were studied on the affective and achievement variables of report card grades, self-expectations for academic performance, teacher and parent expectations, parental reactions to success and/or failure and the child's locus of control in the academic setting.

The samples consisted of 63 students in the High academic self-concept group and 53 student in the Low academic self-concept group. Academic self-concept was assessed by means of the Student Perception of Ability Scale and High and Low group students were those who were at least one standard deviation above or below the population mean. These High and Low students had also been identified as demonstrating average or above average ability in group intelligence tests. No demonstrable differences were evident between these groups on the variables of age, socio-economic status and general self-concept as assessed by the Piers-Harris Children's Self-Concept Scale.

Instruments which were used to investigate differences included the Student's Perception of Ability Scale, Projected Academic Performance (Children's Teacher's and Mother's versions) and the Intellectual Subscale of the Parent Reaction Questionnaire. Report card grades were taken from the student cumulative files at the end of the school year.

The results revealed that High academic self-concept children receive higher report card grades, hold higher expectations of self, are given higher expectations by teachers and parents and have a greater im-

ternal locus of control for success than Low academic self-concept children. Parental reactions and locus of control for academic failure did not differentiate between these two groups.

Some sex differences were evident in that girls tend to receive higher report card grades and experience higher parental expectations. Boys were more dissatisfied with school in the Low group.

The interrelationships of these affective variables suggests that for High academic self-concept children, self, teacher and parent expectations are consistent and correlated with report card grades at the end of the year. Low academic self-concept children's expectations indicated that they may have some difficulties in projecting their final report card grades for the year. Teachers and parents were more aware of the report card grades for the Low group child although their expectations were not consistent with each other. High-Low group membership of academic self-concept differences correlated significantly with the report card grades, self-expectations, teacher expectations, parental expectations and an internal locus of control for success.

Academic self-concept does continue for a number of the children in the extreme groups in the following school year. The 1978 academic self-concept scores were predicted by academic self-concepts and teacher expectations to account for 36% of the variance. Academic self-concepts appears to be less stable in extreme groups than in the total population from which these samples were drawn.

Findings were discussed in terms of the implications that extreme academic self-concepts have as affective entry characteristics in the acquisition of new skills in the classroom.

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CHAPTER I

INTRODUCTION AND OVERVIEW

"Train up a child in the way he should go and when he is old, he will not depart from it" (Proverbs 22·6). For the purposes of this study, this oft-quoted proverb could be reworded to state: Educate a child to perceive himself in a certain way and this self-concept will affect him throughout his years.

To attempt to define self-concept may be as elusive a task as attempting to define truth or beauty or justice. Part of the problem lies in the view that it is the self which has the concept of self; it is both that which knows and that which is known; both the subjective and the objective; both I and me (Yaramoto, 1972). The basic question is a philosophical one since the actual use of the term self-concept implies that we have a conscious awareness of that which is our central reference point and that we can come to know ourselves (Dooyeweerd, 1977). Empirical research cannot remain embroiled in such philosophical musings but must at a certain point recognize its limitations and proceed with the task at hand of defining that which is operational and accessible to research. For the psychologist who is concerned with the understanding and prediction of human behaviour, the emphasis in defining self-concept lies in the subject's conscious perception of the environment and the relationship of the self to that environment.

Self-concept is defined as a theoretical construct which "helps to explain behaviour variations which occur under constant external stimulation and similarities of behaviour which occur under varying external stimulating conditions" (Wylie, 1961, p.12). Most operational definitions of

self-concept have been criticized as being too global and Wylie (1961) suggested that we should make the construct more molecular by tying it to the specific situation. The theoretical construct is to be more aptly considered as a collection of intervening variables assumed to be independently operative in each situation to account for variations in behaviour. Thus, one may speak of an academic self-concept, an attractiveness self-concept, a family self-concept, a peer interaction self- concept and numerous other situation-specific concepts.

The more one assumes each facet of self-concept to be situation-specific, the greater the temptation exists to make this intervening variable the dependent variable which is formed as the result of the person's interactions with others in a specific situation (Brown, 1957). It appears that as we move from the elusive concept of self as knower and known to the more empirical definition of self as embedded in a specific situation, we may also begin to lose a sense of self as distinct and independent from others. When self is considered to be a dependent variable, it becomes empirically more predictable, modifiable and measurable. In this light, the self is more the result of behaviour than the cause.

Since the human organism does not cease to behave, except possibly at death, behaviour does have a cumulative effect in that the dependent variable in one situation becomes the independent variable in a following situation. This interactive and progressive effect is not necessarily additive. Most self-concept measures consist of various subscales which are additive in a linear fashion - a presupposition which may be seriously questioned in view of the interactive effects (Smith, 1978).

The suggestion to make self-concept measures more situation-specific

resulted in Shavelson, Hubner and Stanton's (1971) proposed model of self-concept as comprised of two major areas for school-age children: academic self-concept and non-academic self-concept. This model is especially useful for students since they are most frequently in situations where the evaluations of others may be reflected in their self-perception of academic competency and confidence. Academic self-concept is divided into subject areas. Non-academic self-concept is divided into social and physical self-concepts. Shavelson et al. (1971) argued that the more closely the self-concept is tied to the specific situation, the greater its predictive validity.

Brookover et al. (1965, 1967) used this model of differentiating the academic self-concept from non-academic self-concept when they conducted extensive longitudinal studies of academic self-concepts with junior high school students. Studies of academic self-concept with elementary school children have frequently used a modification of the scale constructed by Brookover, LaPere, Hamachek, Thomas and Erickson in 1965. General self-concept measures used in school settings to predict or analyze achievement behaviours had often resulted in ambiguous or contradictory findings (Chapman, 1979). Low but positive correlations between the academic subscales of the general self-concept measures and student achievement (Purkey, 1970) led educational psychologists such as Boersma and Chapman to concentrate more specifically on academic self-concepts as distinguished from non-academic self-concept. They constructed the Student's Perception of Ability Scale (SPAS) specifically for elementary school-age children (Boersma & Chapman, 1977). The present research used this SPAS scale to explore the various personality and situational variables which are involved

with children who have a high academic self-concept as opposed to those who have a low academic self-concept.

Brookover and Erickson (1975) referred to academic self-concept as a "functionally limiting threshold variable". More specifically, they stated that "before an individual will attempt to carry out certain role behaviours, he or she must assume some probability that he or she will be successful to some minimum level" (1975, p.275). In Brookover et al.'s extensive longitudinal research, it was found that students' self-concept of academic ability accounted for a significant proportion of academic achievement (Brookover et al., 1967). Kifer's (1975) research confirmed that there was a cumulative interaction effect which took place between academic self-concept and academic achievement in grades 2 to 8. Students who had histories of previous success tended to have increasingly higher feelings of competency and esteem, and their achievement corresponded accordingly. Students who had histories of previous failures had decreasing feelings of competency and esteem, and their achievements were considerably lower. Furthermore, positive personality characteristics were associated with success, whereas negative personality characteristics were associated with failure. Kifer's quasi-longitudinal study of elementary school children was limited in its predictive validity by virtue of being quasi-longitudinal. The study discussed in this thesis was longitudinal in that the in the same students participated for two consecutive school years.

The development and maintenance of academic self-concept in the present study is seen to be contingent upon the perceptions and evaluations of significant others and self. Interpersonal theory speaks out very strongly for the interactions of significant others. Evaluations of others are made manifest

to the child in report card grades assigned by teachers and parental reactions to the child's school performance. Academic self-concept, perceptions, evaluations of self and others and academic locus of control are called affective entry characteristics for the child in the school situation (Bloom, 1975). About 25 % of the variance in individual differences in school achievement could be accounted for by differences in affective entry characteristics. Although cognitive entry characteristics as well as the quality of instruction also account for the differential achievement of students, the present study focused on the interactive influences of the affective dimensions and achievement.

"The significant others appear as the basic unit and the self-system becomes a concept formed as the result of the interaction of the personality with other persons significant to it" (Brown, 1957, p. 27). For the elementary school child the significant others in the learning environment are teachers, parents and peers. Bloom (1975) and others see the academic self-concept developing as a function of the feedback provided by the child's teachers and parents. "No single thing contributes as much to a sense of esteem as does a good report card" (Covington & Beery, 1976, p.6). The current study hopes to demonstrate that children with negative academic self-concepts are faced with lower teacher expectations and parent expectations of academic performance than children with positive academic self-concepts. Lower teacher expectations are also more frequently translated into lower report card evaluations.

The child who is consistently exposed to positive and high expectations and evaluations of others will also more likely have a high or positive academic self-concept as expectations and self-concept are mutually reinforced.

The child who is exposed to inconsistencies or low expectations and evaluations of others will more likely have a low or negative academic self-concept. Brookover and Erickson (1975) stressed that it is not so much the actual perceptions and reactions of significant others which modify the academic self-concepts but the individual's subjective interpretation of these. The perceived views of others become internalized as a consequence of identification and compliance with others (Brookover et al., 1975). Thus, the academic self-concept is not only contingent upon the perceptions, reactions and evaluations of others, it is also determinative of how the child perceives these reactions and evaluations. The present study will investigate more closely the interactive effects of these expectations as well as possible congruencies/incongruencies in the expectations.

Although the perceptions, evaluations and reactions of self and significant others do have cognitive dimensions and implications, for the purposes of the study, these variables will be treated primarily as affective variables contributing to the formation of academic self-concepts. Another affective variable which will be examined in its relationship to academic self-concept will be the child's academic locus of control. This control refers to what the individual believes about who is responsible and in charge of the events which happen to self. It makes no reference to what is actually true but is a reflection of the child's perceptions. These perceptions can be "important determiners of the reinforcing effects of school experiences" (Crandall, Katkofsky, & Crandall, 1965, p.93). The individual who perceives that he lacks control over rewards and punishments has little reason to modify the behaviour which affects his academic performance and self-concept. Academic locus of control refers to a school-

specific control over success and failure in academic situations.

A distinction is usually made between an internal and an external locus of control. Internal control is associated with the perception of events as being contingent upon and a consequence of ones own actions. External control is associated with the perception of events as being controlled arbitrarily by others. Research indicates that there is a tendency towards increasing internality as the child becomes older (Moursund, 1976). Although slight significant increases do occur with age, self-responsibility is already established by grade 3 (Crandall et al., 1965).

The research which relates to locus of control and achievement activities indicates that the "control expectancies relevant to failure may be considered separately from control experiences for success (Lefcourt, 1976, p.136). Weiner (1974) attributed differential achievement outcomes to the perception of ability, effort, task difficulty and luck. Whereas ability and task difficulty are stable factors, effort and luck are unstable factors which are perceived differentially (Weiner, 1974). The student with a high academic self-concept is seen to approach tasks with greater confidence in his ability,more willingness to put forth effort, more capable of doing the task and less likely to attribute success or failure to luck or an external control. The student with a low academic self-cocnept will approach tasks with less confidence, competence, effort and a greater likelihood of attributing success or failure to luck. The so often repeated classroom phrase, "I can't do it", will be heard most frequently from students with low academic self-concepts, who perceive themselves as lacking in ability as each new task is seen as too difficult.

The phrase "This is easy", is most frequently heard from students with high academic self-concepts, who are confident and capable and perceive each task as requiring a minimum of effort. The study will investigate how different internality and/or externality of control for success and/or failure functions in the classroom for boys and girls with high and low academic self-concepts.

Thus, expectations, evaluations, feedback and perceptions of significant others and self as well as locus of control are seen to contribute in some measure to the development and stability of a child's academic self-concept. A number of studies have investigated these variables independently or simultaneously. The samples in most studies to predict achievement involved junior high or high school students. The present study raises the question as to which variable is most influential in the interactive relationship of the academic environment and self and to what extent each of these variables contribute to academic self-concept. Since research seems to indicate that academic self-concept is relatively stabilized by grade 3, then the subsequent achievements are already indicated at that grade level. Whether extreme positive and negative academic self-concepts are maintained with little modification will be investigated, as well as the question of the impact made by affective variables on report card grades.

Since affective entry characteristics may also be influenced by individual differences in I.Q., age and socio-economic status, it was attempted to control for these variables in the samples of subjects. It was hoped that low and high academic self-concept differences would more accurately reflect actual differences between the groups in academic self-concept, the expectations and interactions with others, and locus of

control. Sex differences were investigated for each of these affective variables as well as report card grades in the extreme academic self-concepts groups comprised of children in grades 3 to 6.

Each of the issues as discussed in this overview is more complex than an initial introduction can convey. Volumes have been written on the variables involved although few studies have attempted to integrate the affective characteristics meaningfully (Chapman, 1979). The present study concluded by attempting to integrate the affective and achievement variables meaningfully as they appear to function in the lives of elementary school children with extremely positive and negative academic self-concepts.

CHAPTER II

AN INTEGRATION OF LITERATURE AND RESEARCH

The task of education in the home and school is more than a transmission of facts, values and skills. Cognition is not developed in isolation of all influences. The human being is not only a rational being whose reasoning skills will overcome all obstacles. Our hates and loves, likes and dislikes, whether directed at ourselves or at others, affect our perceptions of what is experienced. That there may be innate differences which determine our ability to reason is not to be discounted. The object of this study is to explore the extent to which affect contributes to individual differences when the presumed given of intellectual ability (as measured by I.Q.) is the same for the individuals concerned.

Bloom (1976) and others spoke of the functional limits set by our self-concepts as affective entry characteristics in the educational setting. By referring to these limits as functional, the implication is that our feelings about ourselves and our abilities contribute meaningfully to the perceived individual differences. Bloom (1976) contended very forcefully that if cognitive skills were taught more effectively with a recognition of cognitive entry differences and if affective entry characteristics were recognized and modified, then individual differences in school achievements would decrease substantially. At present these functional limits become realistic limits operating for students in their vocational choices and post-elementary placements.

Although the importance of the dimensions of affective development is generally recognized today as teachers and counsellors implement affective education programs in the schools, the hue and cry for "back to the

basics", denounces these affective development programs as unnecessary frills. The desire for a return to the basics of reading, writing and arithmetic, seldom acknowledges that self-perceptions and others' perceptions of the ability to perform these skills, become the limits which determine achievement. Effective education is not a matter of either cognitive or affective development, but it is an exploration of the dimensions of both.

Towards a Specific Self-Concept

Self-Concept

The self has been posited as a central construct in many theories of personality although the 1970s seem to have had a greater interest in self than all the other previous decades of psychological theorizing. The purpose of this review is not to give a comprehensive overview of these theories since they have been presented adequately by others (Hamachek, 1978; Wells & Marwell, 1976; Wylie, 1974).

The discussions of the self as the concept which we have of ourselves frequently categorize the feelings we have about self as positive or negative, high or low. Positive feelings about self have been referred to as self-esteem, positive self-regard, ego strength, mental health and "I'm OK". Individuals with high self-esteem have frequently been found to be more creative, confident, competitive, independent, successful and personally satisfied. Low self-esteem, on the other hand, has been associated with the more negative aspects of personality functioning such as dependence, overstriving and conformity (Coopersmith, 1967; DeVoe, 1977; Matheson, 1969; Smith, 1978). The personality characteristics which are often seen to be associated with either high or low self-concepts are frequently as

much a reflection of the particular theorist's orientation as an empirical reality.

Coopersmith (1967) summarized three major difficulties in studying self-esteem or self-concept: "distinctions as to the quality and quantity of esteem, the value terms applied to both high and low esteems and the theoretical superstructure generally invoked in discussing esteem" (p.25). Qualitative distinctions must take into account whether the self-report is genuine and whether it is congruent with the expressed behaviour. Quantitative analyses of self-esteem can be misleading in that one does not possess a self-concept that is as stable as the characteristics of blue eyes or black hair. High and low esteem must take into account the process of acquisition rather than the cumulative index of self-esteem (Brookover & Erickson, 1975). The personality characteristics frequently associated with positive (high) or negative (low) self-concepts may also be a reflection of the society's value system. Independence and competition may become associated with positive self-esteem in one value system while being simultaneously denounced as indicative of negative self-esteem in its extreme forms by the same or different societal standards.

The theorists who count self as the central reference point to account for personality and human behaviour have given insights into the study of self-concepts, but have failed to establish precise categories of the self's functioning which could further research (Wylie, 1961). The frequently employed definition of the self as "an organized collection of beliefs, attitudes and feelings a person has about himself" (U.S.HEW, 1971, p. 87), is considered to be too global to be useful for research purposes (Bandura, 1978; Wylie, 1961). The numerous attempts to measure self-concept often

resulted in ambiguous or contradictory findings because the definition lacked operational specificity. The attempts to quantify self-esteem either attempted too much by accounting for qualitative diffferences in self-esteem in different situations or generalized too greatly from one situation's self-esteem index to all situations.

In 1961, Wylie reported that the trend in research to create ones own self-concept measure had produced literally several hundred measures of self-concept. Factors which contributed to this vast collection of self-report measures were the desire to be less global and more situation-specific in defining self-concept, as well as the lack of a clearly superior measure of self (Robinson & Shaver, 1977). These self-concept measures were generally comprised of named subscales which differentiated the self-concept into multi-faceted dimensions. These different facets were in turn assumed to be additive and interactional (Smith, 1978).

The constructed scales of self-concept measures differ in the emphasis which is placed on the general vs. the specific; the self in isolation or in community; family relationships and values; expressions of self through play, reading, physical exercise and any other variable which may seem to be related to the development and stability of self-concept. Few of the scales have been validated beyond the specific studies for which they were intended. Robinson and Shaver (1977) referred to the lack of validation as "professional irresponsibility" (p. 52). New scales should be constructed only for purposes which can be "professionally justified and are generative of related statistical research which will be meaningful for the use of the professional" (Robinson et al., 1977, p. 50).

Despite Wylie's pleas for "more attention to measurement problems

and less to measurement generation", Robinson et al. predicted that the numbers of self-concept scales would continue to increase (1977, p.52). Validity of the scale, i.e. does the self-concept scale measure what it claims to measure, remains a major problem with self-concept scales.

Marx and Winne (1978) attempted to establish discriminant validity (the extent to which a scale does not measure irrelevant constructs) for three self-concept measures which are situation-specific in their subscales. They found that the named subscales of popularity, school competence, anxiety, and physical appearance had convergent validity (relating to similar measures) but no empirically differential significance.

> With respect to the nature of the construct of self-concept, the developers of self-concept inventories imply the existence of different facets of self-concept by the separation and naming of subscales. The evidence in this study suggests that subscales claimed by these developers to be considerably different, are not empirically differentiable. Thus, theoreticians and educational personnell alike should qualify the traditionally accepted differentiations of physical, social and academic self-concept (p.108).

Self-Concept as an Affective Entry Characteristic

The ambigious and contradictory findings alluded to earlier in the discussion of self-concept research are particularly striking when studies involve the school situation Bloom (1976) had proposed a model of school learning in which three major components were identified as affecting school performances. These components were "cognitive entry behaviours", "affective entry characteristics" and "quality of instruction". The initial affective entry characteristics are a "complex compound of interests, attitudes and self-views" (Bloom, 1976, p. 75).

Affective characteristics develop in early childhood as a result of interactions with others, everyday experiences and school situations.

Bloom (1978) had found that most studies of affective characteristics in school had been of a predictive or concurrent nature and had not sufficiently explored the causal relations between the affective entry characteristics and aspects of the learning process (p. 77). The variance in achievement levels of students could not be attributed solely to cognitive entry behaviours and quality of instruction but about one-fourth of this variance was to be attributed to differences in affective entry characteristics. Changing the view of self would contribute to students' subsequent school achievements. Theoretically and conceptually, this assertion has formed the basis for a number of studies.

In 1971, Mageau investigated the possibilities of increasing students' acceptance of self in the hope that increased self-acceptance would eventually be translated into greater school achievement. For her thesis project, she structured group counselling sessions with underachievers and found that after ten weeks of counselling there were no statistically significant changes in self-views and achievement. She had used the California Test of Personality to assess changes in self-acceptance.

Legge (1978) used the Piers-Harris Children's Self-Concept Scale to determine pre and post-test differences in elementary school children's self-concepts. Although she did find statistically significant differences in self-concept between children who were placed in resource rooms and those who were kept in regular classrooms, she did not find this self-concept measure to be related to their reading achievement scores.

Using the Coopersmith Self-Esteem Inventory to assess self-concept, Divine (1975) found that there is a significant positive correlation between self-esteem and reading. Since no correlation coefficient was higher than

.21, Divine failed to find statistical significance for his stated positive correlation between self-concept and reading.

A comprehensive study by Chapman (1979) of learning disabled children found that the Piers-Harris Children's Self-Concept Scale failed to differentiate the learning disabled from the "normals" on the measure of self-esteem. If affective entry characteristics are to be regarded as accounting for one-fourth of the variance in school achievement, it would be expected that the learning disabled's self-concept measure should be an indication of possibly negative affect.

The investigations by Mageau, Legge, Divine and Chapman serve to illustrate that the general self-concept measures which have frequently been used in research have not always provided the desired confirmation of the conceptual relationship between self-concept and achievement. The most frequently used self-concept measures have been the Piers-Harris, the Sears Self-Concept Inventory and the Coopersmith Self-Concept Inventory. The use of these tests as an index of general self-concept is not questioned at this point. The ambiguous and contradictory findings in attempting to relate general self-concept as an affective entry characteristic to the school achievements do indicate that these measures may not be the most useful for predictive or diagnostice purposes.

The causal role of self-concept in academic performance may be difficult to determine since most studies "do not establish whether the self-image is determined by prior performance or whether prior performance is determined by the self-image" (Lavin, 1965, p. 93). The self-image is probably acquired both in social situations and sensitivity to prior experiences. Because of this sensitivity, Lavin (1965) recommends that the use

of self-image measures as predictors having a causal significance should precede experience with academic settings. Although this recommendation may have merit for those who wish to study affective entry characteristics which are not already influenced by school experiences, the majority of research on education and variables which contribute to differential levels of achievement, tends to concentrate on the child in the school situation. Affective entry characteristics consist of the feelings a child has about him/herself in the academic situation. If self-esteem measures cannot be shown to be predictive of school achievement differences, then either the self-esteem measure is not an adequate indicator of affective entry characteristics which continue to affect the child's work, or Bloom's concept of affective entry characteristics needs greater clarification and more specific content.

Academic Self-Concept

Self-esteem is not only associated with "personal satisfaction and effective functioning" but it is also an "appraisal of self in relation to others" (Coopersmith, 1967, p.3). The situation in which most North American children interact with others, involves the home, school and playground. It is in the school setting that many are exposed to judgments, ratings and interactions which may affect their self-concepts and be an affective entry characteristic (Bloom, 1976; Covington & Beery, 1976; Entwisle & Hayduk, 1978; Good, Biddle & Brophy, 1975; Matheson, 1969).

Wylie's suggestion for molecular constructs which are situation-specific, was implemented by Shavelson, Hubner and Stanton (1971) when they proposed a model of self-concept which would take into account the

differences between the school and home settings. Self-concept is to be seen as composed of two major areas: academic self-concept and general self-concept. Self-concept is a hierarchical construct with situation-specific variables at the base of the hierarchy (Chapman, 1979). Correlations between the subscales are expected to be low but positive in that each subscale does contribute to a general self-concept. Although the facets of self-concept are not necessarily additive, they are interactional. For the researcher who wishes to investigate behaviour in a specific situation, it would be most useful to utilize those self-concept variables which are at the base of the hierarchy.

Bloom (1976) found correlations between non-academic and academic self-concept measures to be .35. He believed that as the child progressed through the school grades, the academic self-concept is generalized and increasingly influential on self-concept formation.

> Successful experiences in school are likely to result in positive academic self-concepts and increase the probability of a positive self-concept. Unsuccessful experiences in school are likely to result in a negative academic self-concept and increase the likelihood that the individual will develop a negative general self-concept (Bloom, 1976, p. 157).

The initial affective entry characteristics of interests, attitudes and self-views are molded by school experiences to become more specific attitudes towards self in relation to the learning tasks and the school environment. Academic self-concept is not in itself a factor determining school success and /or failure, but it is a "functionally limiting factor" in that it intervenes between the perceptions of others and subsequent performance (Brookover, Le Pere, Hamachek, Thomas & Erickson, 1965, p. 202). It is in the school setting that a child's perception of adequacies or inadequacies become tied intrinsically to a sense of self-worth (Bloom, 1976;

Covington et al., 1976).

Brookover et al. (1965, 1966, 1967) used the model of distinguishing the academic self-concept from non-academic self-concept when they conducted extensive longitudinal surveys with junior high school students. They had constructed the Michigan State Self-Concept of Ability Test for this student population. This test is very specific in its operational definition of academic self-concept in that it not only asks students to rank themselves in relation to others, but it also has them assess their abilities in specific school subjects. School related affect was interpreted to include not only attitudes and interests but was also composed of subject-related affect.

Subsequent studies of elementary school children used a modification of Brookover et al.'s scale or the academic subscales of the existing general self-concept measures. Since Brookover et al.,'s scale is more suitable for older students in its use of ranking to determine students' perceived abilities and since the general self-concept results were inconclusive when used to predict school achievements, it was deemed essential that a test be constructed to assess academic self-concept in elementary school children. To meet this need, Boersma and Chapman constructed the Self-Concept of Ability Scale (SPAS) for children in grades 3 though 6. Low and statistically non-significant correlations between the Piers-Harris and the SPAS in the validity studies led them to conclude that the "SPAS is tapping something quite different from general self-concept" (Boersma, Chapman & Maguire, 1977, p. 16). The SPAS was found to be a better predictor of school achievement and behaviour in school settings than the general self-concept measure. As an index of affective entry characteristics it

appears that the SPAS is more useful than a general self-concept measure (Chapman, 1979).

The Achievement Syndrome

A Definition of Academic Self-Concept

Chapman (1977) defined the construct academic self-concept as "the manner in which an individual describes himself as unique among others in terms of interactions and performances on school tasks" (p. 2). Not only is the child judged in terms of actual school performance in the manifest curriculum, he is also exposed to a latent curriculum in which he is constantly judged on his performance in relation to his peers by the classroom teacher, parents and classmates (Bloom, 1976). This latent and manifest curriculum are the context for the interactions which contribute to his academic self-concept. Uniqueness here does not refer to an inherent and static trait in the individual, but to a view of the self which is formed in interactions with others, susceptible to change and developmental.

> All other things being the same, a bright competent child in a classroom of equally capable children is likely to be lower in self-esteem than a less competent child who is markedly superior to his classmates. The absolute, objective appraisal of capacity, performance or possession, does not have for the individual, the significance of the psychological appraisal made in the personal context (Coopersmith, 1967, p. 243).

The educational controversies which were aired in the last decades often revolved around this issue of the context in which self-concept of ability is formed. Does tracking or ability grouping foster negative academic self-concepts? Are socio-economic differences perpetuated in the classroom? Does the classroom context reflect the community at large and perpetuate a segregated society?

The Societal Emphasis on Academic Achievement

In 1968, Dreeben analyzed the task of the schools as a preparation of students for the values and structures in the greater society. The values of uniqueness, achievement, universality and independence could be interpreted as being diametrically opposed to each other but they are the norms which operate in our lives. Although these norms are often considered to be ideologically desirable in our society, the very conditions which are conducive to their development are also conducive to undesirable results.

> ...a sense of accomplishment and mastery, on the one hand, and a sense of ineffectualness on the other, both represent psychological consequences of continuously coping with tasks on an achievement basis. Similarly with independence: a self-confidence and helplessness can each derive from a person's self-imposed obligation to work unaided and to accept individual responsibility for his actions. Willingness to acknowledge the rightness of categorical and specific treatmenet may indicate the capacity to adapt to a variety of social situations in which only a part of one's self is invested, or it may indicate a sense of personal alienation and isolation from human relationships (Dreeben, 1968, p. 86).

The opponents of ability groupings and tracking programs in schools were very aware of how the academic self-concept is operative in the learning process. They claimed that the tracking systems perpetuated the socio-economic differences in society by stigmatizing the lower classes and minority groups as inferior and incapable of learning (Brookover & Erickson, 1975). The classroom categorization of students as successes and/or failures contributes to the students' internalization and acceptance of self as an academic success or failure.

Few would argue that achievement needs are universal in society and that no socio-economic differences are to be detected in the intensity with which one strives for success. One may question to what extent the

value of academic achievement is shared by a particular socio-economic class on society. Coopersmith's (1965) study of the development of self-esteem in white middle-class preadolescents found that the values of academic performance, intelligence and independence were equally important to children regardless of their self-esteem status. For the middle-class student it appears to be true that: "Men achieve a sense of general worth by employing communal standards of success and status" (Coopersmith, 1967, p. 30).

For the middle-class child in school, the internalization of this societal value has certain implications for the development of academic self-concept and its generalizability to self-esteem. The child who does not value academic performance as an indicator of self-worth, will not be affected as dramatically by success or failure as the child who holds academic performance in high esteem. For the child whose achievement needs are similar to others in the class, but whose academic self-concept is low, the perceived discrepancy between needs and ability would increase frustration and perpetuate a negative self-concept.

Academic self-concept and academic achievement appear to be interactional and to speak of the causal effects of one on the other may be an oversimplification. Brookover and Erickson (1975) found that, although self-concept of ability is clearly related to achievement, it is not in itself a sufficient factor in determining school success. Academic achievement must be interpreted to have intrinsic as well as instrumental value. When that occurs, then the interaction of the perceived ability with the middle-class student's value system clearly becomes one of the affective entry characteristics.

> There is an interactive process between the environment and the condition of an individual which is characterized by a monitoring process. The consequences of this process are cognitions as to the value for self of any behaviour he might engagae in. Cognitions of intrinsic value, instrumental value and ability then interact to produce decisions which are stimuli to further decision processes (Brookover & Erickson, 1975, p. 287).

Academic Performance

Assuming that academic achievement needs are a similar entry characteristic for middle-class children in elementary schools, the perceptions of their academic performance in relation to others will contribute to their assessment of ability. The subjective perceptions may not necessarily correspond to reality. Considerable disparities may be evident between the individual's concept of self and the group's concept of the individual (Brown, 1957). In the context of the classroom, it is this self-appraisal which may very well be the major factor influencing affective entry differences.

Subjective appraisals do have some basis in objective assessments. Report card grades, tests and verbal assessments are given regularly to children in the classroom. Of these various feedback procedures, the most public assessment tends to be the report card grades. Bloom (1976) felt that marks which are reported to the student by means of public report card grades are likely to have a greater impact on self-perceptions of ability than the daily dosages of praise and/or punishment which are given privately. The more public one's standing is made in relation to others, the greater the impact of the feedback (Bloom, 1976). Chapman (1979) suggested that this was especially true for those who have been classified as low achievers in school.

The progressive and interactive effects of academic self-concept

appear to be strengthened as students progress through the elementary grades. Kifer (1975) found that there was definitely a "cumulative effect of successful or unsuccessful achievement on the personality characteristics of students" (p. 194). Kifer measured self-esteem (Coopersmith scale), self-concept of ability (Brookover et al. scale) and intellectual achievement responsibility (Crandall's IAR scale). He selected 20% of the students who had received the highest marks in school and compared them with the 20% who had received the lowest marks. He found that after grade 3, the unsuccessful students' assessments of their abilities declined drastically, whereas after grade 5, the successful students' assesments of their abilities increased significantly.

Chapman (1979) found no grade level effects in his learning disabled group on the variable of academic self-concept. He did find, however, that negative self-attitudes are already evident after two years of formal schooling, and that these negative academic self-concepts appear to remain constant through grade 6. "Older LD children did not appear to develop more negative academic self-concepts as a function of increasing grade level and more negative school experiences" (Chapman, 1979, p. 100).

Success and/ or failure in academic performance provide constant feedback to the individual as to the accuracy of self-perceptions. The most pessimistic prognosis is for the individual who has a low self-concept and is certain of having poor abilities in relation to others (Covington et al., 1976). For the child who has a low self-concept of ability, the certainty of this low self-concept is reinforced as failure is experienced. Lacking faith in self, there also appears to be a tendency to fear success since the repetition of success is considered to be extremely unlikely.

Success is then increasingly rejected as a possibility by those who have a low academic self-concept (Covington et al., 1976).

Students who have had more experience with failure than with success come to expect failure as self-confidence wanes (Brookover et al., 1965, 1967; Covington et al., 1976). It is the frequency and the consistency of success and/or failure experiences which have the major effects on academic self-concepts (Bloom, 1976). The fact that Chapman (1979) did not find negative academic self-concepts become increasingly more negative as the children progressed through the grades, may be an indication that for the learning disabled and others with a negative academic self-concept, the history of failures in the first two years of school have an impact on the formation and maintenance of later negative academic self-concepts.

Feelings of adequacy/inadequacy which may have originated in the school setting and become integral to an academic self-concept, are eventually translated to the learning task. Tasks are no longer seen as just difficult or easy but they also become pleasant or unpleasant. The pleasant task is approached with confidence and little anxiety. The unpleasant task is approached with fear or eventually apathy. Few tasks can be avoided in the classroom so that the less desirable situations are possibly approached with an attitude of "I don't care".

> If the perception of failure in school is clear and consistent, the student must move from negative attitudes which involve a good deal of affect to apathy when he finds there is no escape from the school and its learning task (Bloom, 1976, p.92).

The Generalization of Affect

Ones academic self-concept can be considered to be a general concept as well as being comprised of subject-specific components. The experience

of failure in one academic subject does not guarantee similar experiences in other subjects. Chapman's study (1979) did find that with the learning disabled students, there was a tendency to generalize the feelings about specific subjects to the whole school situation. The LD children had "developed fairly broad negative feelings about school, along with relatively depressed levels of academic self-confidence" (Chapman, 1979, p. 131).

Although the correlations between affect towards school and achievements in specific subjects are relatively low in the elementary school grades, the correlations become higher at the junior high and high school levels. Thus, one supposes that the relationship increases with the amount of school experiences and school learning (Bloom, 1976). Academic self-concept functions at the macro-level of school attitudes and the micro-level of specific task attitudes. As the child progresses through the grades, the micro-level tasks are increasingly affected by macro-level attitudes and vice-versa. Because of this generalization of affect, Bloom maintained that "academic self-concept is likely to be the one best index of affective entry characteristics contributing up to 25 % of the variance in school achievement" (1976, p. 97).

Sex Differences in Academic Self-Concepts

Although Kifer (1975) hypothesized of sex differences in achievement and differential effects of patterns of achievement, his study failed to confirm his hypothesis. Main effects of an interaction between sex and achievement had been found in other studies but the interaction was not significant in Kifer's work (p. 204). Stuckey's (1975) research of sex

differences in achievement and its interaction with school-concepts and general self-concepts, does not present a very strong case to refute Kifer's lack of differences. She found that in the primary grades, girls tend to have better general self-concepts and school-concepts than boys when they projected vocabulary achievements for the future. The reverse was true in the upper elementary grades. She did conclude, that when sex is considered alone in relation to the variables of school and self-concepts, it is not a particular advantage or disadvantage. Smith (1978) had found sex differences in one general self-concept inventory but this difference failed to be substantiated with other inventories.

What is not explained in these assertions of academic self-concept and achievement differences between the sexes, is the finding by Kifer that girls who were unsuccessful did score consistently lower than unsuccessful boys on the measures of academic self-concept, responsibility and general self-esteem. Sex differences will be investigated in the present study in their interaction with achievement, academic self-concept and other affective variables which will be discussed in subsequent sections.

Because maturational differences and achievement differences between the sexes do occur, one would assume that academic self-concept differences would be apparent between groups of boys and girls. Since boys are more frequently seen as "high risk" students when they enter school, the sex membership variable is often confounded by group variables.

> Boys vary more throughout the total school experience, have more speech problems, and more reading problems, are placed in all kinds of special classes more often and are even identified more often as 'gifted'. Boys have about an 85% greater chance of being placed in a learning disability class...(Catterall & Gazda, 1978, p. 119).

Girls tend to do better than boys in the primary school and it is only in the later stages of "secondary education that they begin to fall behind" (Banks, 1968, p.95).

The lower achievements of boys in the primary grades can be assumed to have an influence on the development of negative academic self-concepts in the primary grades. Since more boys than girls tend to experience difficulties with learning in the early grades it seems reasonable to conclude that more boys would have negative academic self-concepts than girls. The present research will investigate sex differences in academic self-concept extremes.

Academic Expectations

The previous discussion of the value of academic achievement in our middle-class society touched on the need for achievement as perceived by the child. It did not deal with the modification of these needs as the result of school experiences. Jones (1977) observed that the discrepancies which may be experienced between aspirational levels and eventual success and/or failure are generally resolved in "a more realistic assessment of ones abilities or a lowering of ones aspirational levels (p.6). The issue is somewhat confused by the finding that the "proverbial average adult" tends to see himself/herself as slightly above average and attributes failure to a lack of effort and/or luck rather than limited ability (Weiner, 1973). The definition of expectancy as the "anticipation that performance of a behaviour will be followed by a particular outcome" (Jones, 1977, p.8), does not take into account the development or re-alignment of expectancies as a resolution of the experienced dissonance between high goals and

failure or low goals and success.

Motivational research tends to find an interactive effect between the value of the goal, the amount of expended effort and the probability of goal attainment (Weiner, 1973). Goal value influences effort and subsequent success; the value of success influences goal value and subsequent effort.

Self-Expectations

Pupils' self-expectations reflect the influence of multiple environments such as home, school and community. Pupils begin school with certian levels of aspirations and positive appraisals of their abilities to attain these goals. Entwisle and Hayduk (1978) found that children begin school with too great expectations of their eventual performance levels. After explaining performance assessments and grades relative to others in the first grade, Entwisle et al. had these children indicate how they thought they would be graded on their first report card. The children's self-assessments and expectations were consistently too high. By the time the child was in grade 3 he was more capable of predicting the marks he would receive. Almost 60% of the children correctly anticipated their grades in reading and arithmetic by the time they had completed the second grade (Entwisle et al., 1978, p. 30). The inability of children to predict marks had already begun to dispapear at the end of first grade. The expectations were found to be somewhat subject-specific although not as much as had originally been surmised.

For Entwisle et al., (1978) it is not so much the grades or the expectations which become the best predictor of subsequent achievement levels but the measure of discrepancy between the two. They found a significant

tendency for marks to move towards consistency with earlier expectations. "During 2nd. grade, children's expectations tended to move up if they had received a better mark than expected, move down if they had received a worse mark than expected, and stay the same if they received what was expected" (p. 65).

The feedback process between marks and expectations may lead to noticeable modulations in expectations as children become more familiar with social reality. Wishful thinking appears to be prevalent in first grade as large upward changes in expectations are more prevalent than large downward changes in expectations. After several years, the upward shift appears to be modified and downward shifts are more noticeable.

Parsons and Ruble (1977) found that self-expectations decline as the child approaches middle school years. Chapman (1979) failed to find this same decline in the expectations of LD and control groups. Chapman found that negative and positive expectations appeared to remain stable from grades 3 to 6.

Self-Expectations as an Affective Variable

Peng (1974) also found that more older students had negative self-expectations which were significantly related to standardized achievement scores in grades 4, 5 and 6. These self-expectations seem to be similar to motivational traits in that they "determine pupils' efforts, interests, persistence and performance quality" (Peng, 1974, p. 25). Further research was deemed necessary by Peng to determine whether the "negative function of age to self-expectations is a consequence of maturation or of cumulative negative school experiences" (p. 118).

Self-expectations are not the same as academic self-concepts. The

expectations one has for oneself are more accurately the reflection of standards which are set. These standards have incorporated the societal values and are influenced by the concept one holds of ones academic ability. Covington et al. (1976) see the self-expectations as the result of a compromise between two opposing tendencies: "The need to set expectations low enough to avoid repeated failure, yet high enough to gain social approval and strive for something better" (p. 19). The student who has been exposed to cumulative failure often develops a failure-prone strategy which either involves non-participation or irrational goal setting. For the underachievers the sizeable discrepancy between actual and ideal self often results in an internalization of self-blame and defeat, " rather than a modification of the inappropriate standards they have set for themselves" (Covington et al., 1976, p. 41).

As an affective entry characteristic, self-expectations are integrally related to an academic self-concept. The modification or rigid adherence to the standards one sets are seen to contribute importantly to the concept of onesacademic ability. The present study will investigate to what extent the expectations one has are congruent with ones academic self-concept. The individual with high expectations and high academic self-concept will most likely have had more success experiences than failure. The individual with a low academic self-concept who has had more experiences with failure may be labouring under unrealistically high expectations or may have modified these expectations to become more consistent with the academic self-concept.

Significant Others

For the elementary school child, the significant others in the learning

environment are parents, teachers and peers. Although the influence of the peers may outweigh the influence of adults in adolescence, for the age group of 6 to 12, the peer reactions and evaluations are directly influenced by adult perceptions and evaluations (Brookover & Erickson, 1975; Mitchell, 1975). Attempts to identify the significant others for academic behaviour in adolescents also have found that some doubt could be cast on the assertion that the peer group is the most important influence on student behaviour. It seemed reasonable for Brookover et al. (1975) to conclude that "family, neighbours and other adults may all contribute to the criteria by which students assess their competencies to learn" (p. 307). If the significant others in this adolescent environment are also parents and teachers, it seems reasonable to conclude that, for the elementary school child, parents and teachers are likely to play an even greater role in achievement expectations and self-concept formation (Lavin, 1965).

Teacher Expectations

Bloom (1976) sees the academic self-concept developing as a function of the feedback process provided by teachers and parents. The feedback process does not refer only to the report card grades and reactions, but also to the expectations which are involved in the evaluations of the students.

Although Rosenthal and Jacobson's (1968) study of self-fulfilling prophecies in the classroom has been seriously critiqued, there is little doubt today that report card grades and teacher expectations are inextricably linked and consistent with each other (Elashoff & Snow, 1971; Good, Biddle & Brophy, 1974; Jones, 1977; Mendels & Flander, 1973).

Teacher expectations appear to come about naturalistically on the basis of their daily interactions with students, their past experiences and their knowledge of cumulative records (Peng, 1974). Studies which attempted to induce changes in teacher expectations for individual student performances were not successful in establishing the self-fulfilling prophecies because the induced expectations were not consistent with the naturalistically formed expectations (Good et al., 1974). Claiborn's (1968) study which was based on the paradigm of Rosenthal et al.'s research failed to confirm the Pygmalion effect on the I.Q. gains of students. The effect of teachers' expectations may not be illustrated to affect differences of supposed "actual ability" (as measured by I.Q.) but in differences of differential perceptions of ability by children.

Teacher expectations are often assumed to be transmitted to children in differential reactions to "bright" students and "slow" students. Peng (1974) had assumed that differential expectations would be apparent in the qualitative differences of instruction, enthusiasm in teaching and the provision of assistance to students. He did not find signficant interactive effects between expectations, quality of instruction and student achievements but this may have been due to the design of his study in which he concentrated on class differences rather than individual student differences.

Rubovits and Maehr (1970) did find that there was a qualitative difference in student-teacher interactions which benefits the brighter students in the class. Students who are perceived as being more capable than others do receive more teacher praise and attention. Less capable students are not necessarily given more criticism but they do receive less praise.

Bloom (1976) had stated that daily dosages of praise did not influence academic self-concepts as much as the public appraisal, but this was primarily attributed to the student's perception of a lack of authenticity or realism in the praise. Teacher expectations may be reflected in daily interactions of praise/ no praise/ false praise situations.

Wang (1973) found that although there was great variability in teachers' informal evaluations of students' performances, their perceptions of pupils in these evaluations were at least 68% accurate in predicting pupil performance on criterion-referenced tests. The criteria employed by teachers in their evaluations and expectations of student performances tend to be more homogeneous than individual teacher differences would lead us to expect (Brandis & Bernstein, 1974).

Teachers' initial expectations tend to crystallize and persist throughout the entire school year. The next year's teacher who utilizes class records often bases initial expectations for that year on the student's past performances (Bloom, 1976; Entwisle et al., 1978). Although the academic criteria may be homogeneous for teachers, Bloom (1976) did find that students tend to be judged more on their previous history of related learning than on the degree of learning within the specifics of the teacher's course. The student who has demonstrated difficulty in the past in addition and subtraction problems will also be expected to have difficulties in the use of multiplication and division. Some teachers may not use criterion-referenced tests for specifics within the course and the report card grades are then not only a cumulative index of student performance but also a reflection of teacher expectations.

Students perceived as differing dramatically in academic ability are

sometimes also subject to differences in grading policies. Schaffer, Olexa and Polk (1975) found that teacher grading policies were acknowledged to be different for high school students designated as college prep and those who were not. Grade floors existed for those who were presumed to go to college whereas grade ceilings existed for those who were not college-bound. College prep students seldom received lower than "C" but non-college bound students seldom received higher than "C". Granted that these grading differences may be attributed to cognitive entry differences, the implied policy does impose an additional burden on the lower track student who wants to succeed (Schaffer,, Olexa & Polk, 1975). These grading policies may be suspected as being too extreme with "C" as the floor and ceiling but the indication that grading policies may be different for students in varying tracks does seem plausible.

Teacher expectations could be considered to be an affective variable which influences the student's academic self-concept. Whether teacher expectations are transmitted in report card grades, differential reactions to the students or perceptions of their ability, they are part of the context in which a child's academic self-concept is formed. The present study hopes to establish that there is a direct relationship between students' academic self-concepts and teacher expectations. For the elementary school child, the teacher is a significant adult. How this adult functions in the development and maintenance of the child's academic self-concept remains to be seen in this study. By comparing teacher expectations with report card grades, greater clarity may also become evident on the issue of whether teacher expectations are transmitted directly in the grades.

Are teacher expectations good predictors of academic performance and academic self-concept or are grades more significant as predictor variables?

Parental Expectations

Much of the research assumes or demonstrates a consistency in feedback and expectations of significant others in the academic expectations of the child (Brookover et.al., 1975). Entwisle et al. (1978) found that parental expectations gradually became more consistent with teacher expectations and report card grades as the child progressed from grade one to two. Working-class parents were generally found to be less accurate in predicting their children's achievements than middle-class parents. Most parents were found to "play it safe" by giving more conservative estimates of children's performance in grade one, but by grade two, parents were well aware of the academic criteria and norms used by teachers to assess their children's abilities in relation to others (Entwisle et al., 1978).

Few mothers perceive their children to be below average in intellectual capacity (Coopersmith, 1967). Parents are not likely in agreement with children who have low self-expectations. What was interesting in the study by Entwisle et al. (1978) was that when parents and children do have initially low expectations, both tend to be inaccurate, although the children were more inaccurate than their parents.

> A large majority of children whose parents expect them to do poorly, or who have low expectations of themselves, naturally do well, i.e. 83 % of the children with low hopes get As and Bs whereas 67% of the children whose parents have low hopes gets As and Bs (Coopersmith, 1967, p. 48).

These initial expectations are modified by parents after the first report cards so that by the time a child is in grade two, parents demonstrate a persistent accuracy in forecasting year-end marks.

Discrepancies between parental expectations and pupils' performances were interpreted by Entwisle et al. (1978) to have a causal effect on children's subsequent performance. The causal effect was seen to wane in the second year of school. Attributing causal effects to one variable generally presents problems when there does appear to be such an interactive effect of a number of variables. Parental expectations and perceptions do appear to be more amenable to change than teacher expectations and perceptions. Ribner, Bittlingmair and Breslin (1977) studied the effects of parent-teacher interactions. They suggest that although parents do rate their children higher on academic traits than teachers do, there is a tendency for parents to adjust their perceptions to become more similar to teachers' perceptions.

It does seem reasonable to assume that not all parental expectations are going to be aligned with teacher expectations for pupil performance. The consistency of parent and teacher expectations may confirm or strengthen the academic self-concept of the child. The child who has a high academic self-concept is not only responding to high teacher expectations but also to high parental expectations. Similarly, the child with a low academic self-concept is responding to low parental and teacher expectations. Where inconsistencies do occur between parent and teacher expectations, the child is exposed to greater uncertainty and anxiety. The uncertain child is less capable of feeling consistently good about his academic ability and may become more vulnerable to a lowered academic self-concept. Thus it is possible that the child with a low academic self-concept is not only presented with lower academic expectations from parents and teachers, but is also given inconsistencies in expectations more frequently.

Recent studies of academic self-concept formation of grades 7 to 12 students found that parental evaluations and perceptions made a greater impact on student self-concept formation than teachers' expectations (Brookover, et al., 1975). In how far this can be said to be true of elementary school age children remains to be seen in this study. The perceptions of the significant others make an impact on the achievement of students by virtue of the influence these perceptions have on academic self-concept development. Brookover et al.'s (1965) hypothesis that "the relationship between academic self-concept and achievement is greater than the relationship between perceived evaluations and achievement" (p. 13) needs to be investigated further for elementary school children to determine the extent to which teachers and/ or parents are significant influences on academic self-concept and subsequent achievement.

Parental Reactions

The parent who initially has high expectations of the child is seen to express possible disappointment in reacting to a low report card. The negative reaction, as perceived by the child, will undoubtedly have some influence on the concept of self as a student. Research has shown that parents of success-oriented children tend to reward performances that come up to their expectations while ignoring or remaining neutral towards performances that fall short of their expectations. Students who avoid failure by apathy or lowered expectations tend to have parents who punish them when marks fall below parental expectations and who ignore the grades or remain noncommittal when grades exceed expectations (Covington et al., 1976).

For Coopersmith (1967) the parental reactions which are the antecedents

of high self-esteem consist of an acceptance, respect and concern for the child, the establishment of firm clear boundaries of behaviour, and the exercise of control with the use of rewards rather than punishments. The parents of children with high self-esteem also tend to be more involved with the school in a positive attitude (Class, 1977). Increasing the effectiveness of parenting by training parents in listening skills, showing increasing respect for children and becoming more involved in the learning task was also demonstrated to increase children's self-esteem, motivation to learn, academic attitudes and achievements (Muze, 1977; Smith & Brache, 1963).

Parental perceptions and interactions are seen as crucial elements in both school-related affective and cognitive development (Brookover et al., 1975; Coopersmith, 1967; Hamachek, 1965). Chapman (1979) found that mothers of learning disabled children had more typically negative reactions to their children's achievement behaviours than mothers of "normals". The mothers of the control group of "normals" had more positive reactions to their children. The mothers of the LD children were aware of their children's negative self-perceptions but were not able to overcome their negative reactions by being more supportive and encouraging of their children.

Coopersmith's (1967) study of parental influences on the development of low and high self-esteem cannot necessarily be extrapolated to the development of low and high academic self-concepts. It does, however, seem reasonable to assume that since parents of low and high self-esteem children value academic achievement, their reactions to children's differential performances will reflect this value orientation (Coopersmith, 1967).

For the child who perceives negative reactions as forthcoming from the parent, it is not always true that the parents are expressly negative in their reactions. The neutrality of the responses or the ignoring of student performance may be perceived by the child as a possible lack of concern - a perception which is not only a conflict for the child who realizes that his parents do value academic achievement but a perception which may also serve to make the boundaries of expectations less clear and defined.

Parental reactions form a context of psychological appraisal for the child. Parents, as well as teachers, may take effort into account. Report card grades are often an index of ability, performance and expended effort. Covington et al. (1976) assert that for very young children the only legitimate basis for reward is success i.e. high grades, and praise for effort has a minimum impact. If Covington et al. are correct, then parental praise or punishment for effort or lack thereof, has little bearing on the child's perception of his academic competence. The authenticity of the praise is questioned when the marks are low. Punishment serves to increase anxiety or apathy. Punishment tends to reinforce avoidance behaviours (Krumboltz & Krumboltz, 1972). Since achievement involves far more than just the dispensing of grades, the avoidance behaviour may not be interpreted as an avoidance of low grades but a lowering of effort, expectations, achievement levels and self-assessment of academic ability.

In the context of what contributes to the child's academic self-concept, the present study will also look at the relative influences of parental reactions to the academic performances of the child. The study will investigate whether positive and/or negative parental reactions appear to

be related to positive and/or negative academic self-concepts.

Locus of Control

The influence of significant others' perceptions, expectations and reactions, as well as the personal achievement needs and self-expectations are to be interpreted in the present study as affective variables which contribute to the child's perception of academic ability. Another affective variable which will be dealt with is the child's academic locus of control.

The construct locus of control refers to the source of control as perceived by the individual in academic situations. A distinction is usually made between an internal and an external locus of control. Internal control is associated with the perception of events as being contingent upon and a consequence of onesown actions. As such, the individual with an internal locus of control will assume responsibility for his own actions and see events as being under personal autonomy. On the other hand, the person with an external locus of control feels that control is dependent upon the arbitrary decisions of others and is unrelated to self and actions. In the academic situation, the externally controlled student will perceive the teacher to be in charge of dispensing grades and the student will not take personal responsibility for these classroom events.

Locus of control refers to what the individual believes about who is responsible and in charge of the events which happen to self. It does not refer to what may be an actuality but it is a reflection of the child's perceptions. These perceptions can be "important determiners of the

reinforcing effects of the school experiences" (Crandall, Katkofsky & Crandall, 1965). The individual who perceives that he lacks control over rewards and punishments, has little reason to maintain or modify the behaviour which may affect his academic performance.

There is some disagreement as to whether or not internal control is essentially a positive characteristic. Although Rotter, with whom the construct originated, saw internality as positive and desirable, Janzen and Beeken (1973) interpreted externality as having some desirable aspects as well. They summarized the positive aspects of an external locus of control as: a more realistic appraisal of what influences us, a greater tolerance of unpredictable situations, a less overt desire for power, more liberating for interpersonal relationships (Eby, 1975).

For Rotter and others, internality is a matter of self-determination; externality is more akin to fatalism (Lefcourt, 1976). When the concepts of internality and externality are applied to the academic situation, it is less an issue of which characteristic is positive and desirable, and more a question of the attributions for success and failure. Where Rotter interpreted external control as a belief in luck rather than self, Crandall et al. (1965) perceived external control as a perception of the dominant influence of significant others. In the academic situation the significant other who determines whether one succeeds or fails is the classroom teacher.

The development of internality and/or externality have been attributed to parenting techniques, parental reactions, teaching styles, social class and initial school experiences (Crandall et al., 1965; Gracey, 1975; Hess & Shipman, 1975). "The child's beliefs in internal control are related to the degree in which parents are protective, nurturant, approving and non-

rejecting" (Lefcourt, 1976, p. 99). Where the status of the significant other is emphasized in child-rearing,

> the environment produces a child who relates to authority rather than rationale, who although often compliant, is not reflective in his behaviour, and for whom the consequences of an act are largely considered in terms of rewards and punishment, rather than future effects or long-range goals (Hess et al., 1975, p. 112).

Since the present study interprets positive, accepting and nurturing parental reactions to be associated with the development of positive academic self-concepts, it will be of interest to observe whether these parenting characteristics are related to the development of internality and/or externality. Of greater interest, however, will be to examine whether the internal/external continuum of control is related to positive and/or negative academic self-concepts.

Locus of control is not a stable trait or a typology but it is a social learning construct which refers to a process of perceptions in specific situations. For the elementary school child, the construct refers to the perception of what can or cannot be done to achieve success and avoid failure. Conceptually, control is closely related to the expectation level of the child. The child who frequently experiences success will more readily attribute these successes to internal factors such as ability or effort and will come to expect success in the future. The child who frequently experiences failure will come to expect more failure in the future. Whether success and failure are attributed differentially to internal factors of ability and effort or external factros such as task difficulty and significant others remains to be investigated.

The attributions for success and failure may be perceived differently. Weiner (1974) did not utilize the internal/external dimension for achieve-

ment outcomes but suggested a classification of stable and unstable factors. Ability and task difficulty are stable factors which cannot be influenced by the individual whereas effort and luck are unstable factors which are perceived differently in the academic environment. Causal stability influences the expectancy of success. Causal unstability is the locus of control dimension which influences the affective responses to success and/or failure. "Expectations are highest when success is ascribed to stable causes and lowest when failure is ascribed to stable causes" (Weiner, 1974, p. 25).

The student with a high academic self-concept sees himself as academically capable and tasks are approached with increased confidence as success is experienced. It it suggested that individuals who perceive themselves as high in ability have a past history of success (Weiner, 1974). Success is thus attributed to the stability of perceived ability, ease of the task and greater effort. Luck or the significant other do not figure prominently in the success attribution of the confident student.

Since the attribution of failure to perceived lack of ability is often too threatening for most individuals, the self-confident student would tend to attribute failure to external or unstable causes (Covington et al. 1976). Tasks were too difficult, the effort was minimal and/or the teacher was not fair. Students with a high academic self-concept tend to maintain this self-concept in the event of failure by perceiving others as failing also (Covington et al., 1976). The problem of whether the child with a high academic self-concept is primarily internally controlled is not as clearly delineated in failure experiences as it would be for successes. If the frequent successes are primarily explained in terms of

ability and effort, one would suppose that the infrequent failures would be attributed to a lack of effort. One could assume that the attribution for success to internal control would generalize to the failure experiences. On the other hand, one could also assume that in the event of failure, the self-concept of high ability is maintained by blaming others, i.e. an external control. It does appear to be more likely that for the successful student with a high academic self-concept, failure experiences are more likely to be attributed to internal factors than to external control.

Individuals with a low self-concept of ability more frequently have a past history of failure than of success (Covington et al., 1976). They believe that others perform better than they do. Tasks are inevitably seen as being too difficult and the lack of self-confidence reduces their actual output of effort. The phrase "learned helplessness" tends to characterize the outlook of the students who ascribe failure to low ability (Weiner, 1974). Although helplessness may suggest an external control for the low concept of ability student, it is an ascription to an internal control dimension in that the individual feels helpless by virtue of the perceived lack in ability. It is suggested that students with a low academic self-concept will be similar to students with a high academic self-concept in assuming responsibility for failure experiences. Chapman (1979) found that there was no significant difference between LD children and control group in ascribing failure outcomes to internal/external loci of control.

If low academic self-concept children assume some measure of responsibility for failures, it could be argued that this control will be generalized to successes. To the contrary, it appears that there is a tendency for these children to attribute success to external control rather than

internal sources. The infrequent experiences of success are ascribed as the result of "lucky" experiences such as teacher favour or mood or easy tasks, i.e. external factors. Since repeated experiences of the same "lucky" occurrences do tend to suggest that one may have control over the outcomes, it may be assumed that the greater the incidence of success, the more likely it is that the externally controlled individual begins to internalize control and ascribe success to ability (Weiner, 1974). For the child who has a low academic self-concept and infrequent experiences of success, there is a perception of external control for these experiences (Chapman, 1979). For the child with a low academic self-concept who has more frequent experiences of success, there may be a tendency towards an acknowledgement of internal control.

The research indicates that there is a tendency towards increasing internality as the child grows older (Moursund, 1976). Internality increases as vocabulary and language competencies increase. Self-control of academic reinforcements may be teacher or subject specific since these feelings of control do not always generalize to all academic situations (Szykula, 1977).

Some sex differences were found by Crandall et al. (1965). Although boys and girls are not drastically different in their willingness to assume responsibility for success and/or failure in the elementary grades, girls do appear to give significantly more internal responses for positive and negative experiences in the upper high school grades.

The continuum of internal/external control is seen to be specifically related to ones academic self-concept when control is perceived as assuming responsibility for intellectual achievements. Whether control locus is

predictive of subsequent achievement is more difficult to determine. Crandall et al. (1965) investigated the relationship of intellectual achievement responsibility to achievement outcomes. They found that children with an internal locus of control do achieve higher grades in reading, math, language and Iowa Test of Basic Skills subtests. Other researchers confirmed that achievement outcomes are related to higher scores in internality measures (Kifer, 1975). Crandall, Katkofsky & Preston (1965) found that the assignment of responsibility to self were frequently predictive of boys' achievement behaviours but were unrelated for girls. Messer (1976) confirmed this finding in that he calculated the highest grades were obtained by boys who assumed responsibility for success and girls who assumed responsibility for failure. Girls who were internally controlled with respect to success did not necessarily receive higher grades.

The locus of control continuum should not be expected to account for the lion's share of the variance in most achievement instances. Other interacting and affective variables may be of equal importance. For the purposes of the present study, the perceived contingencies of achievement behaviours serve to enhance the academic self-concept or perpetuate the feelings of helpessness. The prognosis for academic improvement may be dependent upon the perception of control.

Purpose of Research

The proposed study will investigate affective variable differences between children with a high or low academic self-concept. Academic self-concept is interpreted to be a better index of the affective variables which operate in the child's school environment than a general self-concept measure. The context in which academic self-concept is formed and maintained involves report card grades, self-expectations, teacher expectations, parental expectations and reactions and the perception of self-control. Academic self-concept may affect more pervasive attitudes towards self. These affective variables are considered entry characteristics for the child which contribute directly to differential achievement levels.

Children with high academic self-concepts are likely to have higher report card grades, greater expectations of self, more positive teacher reactions and higher teacher expectations, as well as an inner sense of control over the academic situation. Parents of children with high academic self-concepts may have higher expectations of their children and may be more supportive of their children's performances in school. These children also experience success more frequently than failure and they expect success in the future.

On the other hand, children with low academic self-concepts are likely to have lower report card grades, more negative or lower teacher expectations and a feeling of helplessness in school demands. Their self-expectations may be unrealistically high or low. Parents of these children tend to have lower expectations although they do place demands for academic achievement on their children. These parents are also apt to be less supportive of their children in that they praise their children infrequently.

Accordingly, these children experience more failure than success and they come to expect failure in future academic situations.

Much of the research in self-concept development has concentrated on differences in the classroom related to socio-economic status and intelligent quotient indices. Differences between high and low self-concept groups were often attributed to factors other than affective entry characteristics. Little research has been done with the context in which academic self-concept differences are developed in elementary school children. Bloom's (1976) assertions of "affective entry characteristics as accounting for up to about 25% of the variance in achievement levels" (p. 97) need to be investigated further. Chapman's (1979) study of learning disabled children's affective entry characteristics is one of the first attempts to make a comprehensive and in-depth analysis of affective development in elementary school children.

The emphasis in the present study will be on developing a better conceptualization of how affective entry characteristics influence children who are designated as having very high or low academic self-concepts but who have been stratified so that both groups have similar average or above average intelligence quotients. The descriptions of children with clear-cut differences in academic self-concept as experiencing negative vs. positive affect, high vs. low expectations, internal loci of control and success vs. failure in achievement, need to be confirmed to be more than mere statements.

This study will focus first on the differences which appear to be evident between children with high and low academic self-concepts in their report card grades, expectations, reactions and locus of control. A secon-

dary area of concern will be to see if sex differences are a confounding or a contributing variable.

Having established that such children do differ with respect to these variables, a further aspect of the research will study to what extent the report card grades, expectations, reactions and locus of control have a greater or lesser impact on academic self-concepts. The concern in this area is which variables contribute most to the disparities in academic self-concept. A related question to this area is whether the interrelationships of variables are similar for the two groups or whether certain consistencies/inconsistencies betweeen the variables can be observed to account for differences between the groups.

Finally, if it can be established that some variables are related more significantly to academic self-concept than to others, the question still remains whether academic self-concept is a stable index of affective entry characteristics which may contribute to later school achievements. The questions of interest are : Which affective characteristics and achievement variables best "predict" the academic self-concepts in the subsequent school year? Is academic self-concept as stable as assumed to be? Are these extreme academic self-concepts modified considerably in the next year?

The questions and assertions may be formulated into three basic research hypotheses. The purposes of the proposed study are to:

1. Describe the affective and achievement characteristics of children who have high and low academic self-concepts with respect to the variables of report card grades, self-expectations, teacher expectations, parental expectations and reactions and locus of control. Sex differences will be investigated on these variables.

2. Examine the interrelationship of the characteristics which are most descriptive of group differences and determine whether there are different patterns of relationship for each group.

3. Determine whether affective and achievement variables in 1977 are related to and predictive of academic self-concepts in the following school year.

CHAPTER III

METHOD AND DESIGN

Subjects

The high and low academic self-concept samples were selected from an Edmonton area elementary school population of about 600 students in grades 3 to 6 who had participated in a comprehensive study of affective variables. Two elementary schools, located in a relatively new, middle-class suburb were involved. Subjects were tested during the April/May period in 1977 on academic self-concept, self-expectations and locus of academic control. Parent and teacher data were also collected at that time. Report card grades were recorded from the files in June. Complete data were available for 429 of the students.

One year later, follow-up data were collected with academic self-concept and self-expectations. End-of-year grades were also obtained in 1978. Because of student absence and/or transience as well as sixth graders' promotion to different junior high schools in the city, the 1978 population consisted of 304 students.

Criteria for selection in the two samples consisted of Student Perception of Ability Scale (hereafter referred to as SPAS) scores and I.Q. measures. In 1977, students were identified as having high or low academic self-concepts while having I.Q. scores which ranged from 100-125. With the SPAS population mean of 46.27 (SD = 11.71), a high SPAS score was defined as being one SD above the mean while the low SPAS score was defined as being one SD below. Scores ranged from 57 to 68 and 4 to 35, respectively.

The range of I.Q. scores was selected to assure to some degree that these students did have average or above average ability in numerical,

verbal and nonverbal reasoning skills as measured by group intelligence tests (Mean = 100, SD = 16). I.Q. measures were obtained from student records. The Otis-Lennon, Form K was used in grades 3 and 4. The Lorge-Thorndike was used in grades 5 and 6. The I.Q. means were comparable for the grades and no statistically significant differences were found between the high and low group I.Q. means (High mean =113.02; SD =6.49; Low mean =112.34; SD = 8.07; t = .50: p= n.s. See Appendix A).

In 1977, 63 students were selected for the high SPAS group and 53 for the low SPAS group. These 116 students were involved in the descriptive aspects of the present study. For the prediction hypotheses of academic self-concept and report card grades in 1978, the original samples were reduced because of incomplete data so that there were 50 in the high SPAS group in 1978 and 37 in the low SPAS group.

The high SPAS group consisted of 31 boys and 32 girls in 1977. The low SPAS group contained 31 boys and 22 girls. The mean SPAS score for the high group was 60.587 (SD = 3.426), whereas the mean for the low group was 27.893 (SD = 6.250). Because of the selection criteria, it was not possible to have equal numbers of girls in the two groups. Possible sex effects were initially investigated on SPAS total and subscale scores.

Table 1 lists the summary of analysis data for the high and low SPAS groups and sex effects. High and low SPAS groups were found to be statistically significantly different on Total SPAS scores ($F = 1208.643$; $p < .001$). There did appear to be a sex effect on Total scores ($F = 4.292$; $p < .05$), with low group girls scoring higher than low group boys (Means are 29.355, 26.871, respectively). There were no interaction effects. Table 2 lists

means and standard deviations for low and high group boys and girls on SPAS Total and Subscale scores.

High and low groups were significantly different on all Subscale scores of the SPAS. The only SPAS subscale with a sex effect was the School Satisfaction subscale ($F = 12.739$; $p < .001$) with low group boys considerably less satisfied with school than low group girls (Means are 5.419, 7.318, respectively). There were no interaction effects on any of the Subscales.

Since only one Subscale score demonstrated a sex effect, it can be assumed that it is the School Satisfaction scale which explains the reason for the sex effect in the Total SPAS scores. An examination of the means and standard deviations of all other SPAS scores (Table 2) indicates that means are comparable for the sexes in the two groups. In spite of the lack of overwhelming sex differences on SPAS scores, it was decided to investigate sex effects in subsequent hypotheses with other variables.

In summary, the high SPAS group consisted of students in grades 3 to 6 who have a concept of their academic abilities as measured by the SPAS as being better than average while their abilities as measured by I.Q. tests is considered to be average or above. These high SPAS students can be said to have an academic self-concept which is congruous with their abilities. On the other hand, low SPAS students in grades 3 to 6 have a concept of their academic abilities as measured by the SPAS to be below average while their ability as measured by I.Q. tests is considered to be average or above. Low SPAS students can be said to have an academic self-concept which is incongruous with their abilities.

Table 1

ANOVA Summary Data for SPAS Total and Subscales for the Extreme Groups and Sex

Scale	Source	df	M.S.	F-Ratio	p
General Ability	A (Group)	1	1232.340	372.642	.000*
	B (Sex)	1	0.073	0.021	.884
	AB	1	0.879	0.266	.607
	Errors	112	3.307		
Arithmetic	A (Group)	1	1182.580	257.036	.000*
	B (Sex)	1	4.648	1.010	.317
	AB	1	0.324	0.070	.791
	Errors	112	4.600		
School Satisfaction	A (Group)	1	337.191	83.305	.000*
	B (Sex)	1	51.562	12.739	.000*
	AB	1	8.563	2.115	.148
	Errors	112	4.048		
Reading/ Spelling	A (Group)	1	1049.030	202.205	.000*
	B (Sex)	1	0.977	0.188	.665
	AB	1	0.082	0.016	.900
	Errors	112	5.188		
Neatness/ Penmanship	A (Group)	1	947.867	234.655	.000*
	B (Sex)	1	7.563	1.872	.174
	AB	1	8.188	2.027	.167
	Errors	112	4.039		
Confidence	A (Group)	1	525.082	245.521	.000*
	B (Sex)	1	1.771	0.828	.365
	AB	1	0.356	0.167	.684
	Errors	112	2.139		
SPAS Total	A (Group)	1	30257.900	1208.643	.000*
	B (Sex)	1	107.438	4.292	.041*
	AB	1	11.500	0.459	.499
	Errors	112	25.035		

*significant effect

Table 2

Means and Standard Deviations for Low and High Group Boys and Girls on SPAS

Group	Scale	Mean	SD
Low Boys	General Ability	4.355	2.377
	Arithmetic	5.194	3.197
	School Satisfaction	5.419	2.393
	Reading/Spelling	5.323	3.156
	Neatness/Penmanship	4.355	2.118
	Confidence	2.226	1.287
	Total	26.871	6.913
Low Girls	General Ability	4.227	2.193
	Arithmetic	4.682	2.547
	School Satisfaction	7.318	2.053
	Reading/Spelling	5.455	3.115
	Neatness/Penmanship	5.409	3.228
	Confidence	2.364	1.025
	Total	29.355	5.582
High Boys	General Ability	10.774	1.361
	Arithmetic	11.548	0.711
	School Satisfaction	9.419	1.896
	Reading/Spelling	11.355	1.206
	Neatness/Penmanship	10.677	1.202
	Confidence	6.419	1.774
	Total	60.194	3.217
High Girls	General Ability	11.000	1.000
	Arithmetic	11.250	1.118
	School Satisfaction	10.219	1.495
	Reading/Spelling	11.594	0.655
	Neatness/Penmanship	10.656	1.107
	Confidence	6.781	1.452
	Total	61.500	3.142

Preliminary Considerations

Before the present study of affective and achievement characteristics of high and low academic self-concept groups was carried out, it was decided to investigate whether there were any significant differences between the two groups on the variables of age, socio-economic status and general self-concept measures. Table 3 list the means and standard deviations for these variables.

Age was calculated in months. No statistically significant differences were found between the high and low groups on ages ($t = 1.00$; p = n.s.). The groups are similar in age.

Blishen's scale (1965) was used to determine socio-economic status. This scale ranks the father's occupation as a function of social desirability, importance and income level. In cases where mothers were also employed, their income level was part of the family classification. No statistically significant differences were found between the high and low groups on socio-economic status ($t = .75$; p = n.s.) The two groups appear to be similar in social and economic status.

General self-concept was assessed with the Piers-Harris Children's Self-Concept Scale. This 80-item general self-concept scale is one of the most frequently used self-concept measures for elementary school children. No statistically significant differences were found between the two groups' scores of general self-concept ($t = .19$; p = n.s.). An analysis of variance design to determine possible group and sex effects was also conducted. Appendix B lists the ANOVA summary data for the Piers-Harris Total and Subscale scores. There were no significant group effects, sex effects or interaction effects. The lack of statistically significant differences between high and low academic self-concept groups on the charac-

Table 3

Means and SDs of High-Low Groups on Variables Age, SES, Piers-Harris

	High Group		Low Group			
Variable	Mean	SD	Mean	SD	t	p
Age	120.81	15.61	118.04	13.73	1.00	n.s.
SES	51.01	16.68	48.84	14.11	.75	n.s.
Piers-Harris	56.92	14.15	56.45	12.67	.19	n.s.

teristics of general self-concept indicated that the group differences are related more specifically to academic self-concept than to general self-concept. General self-concept appears to be less school-specific and school-related than academic self-concept.

The preliminary investigation indicated that the high and low academic self-concept groups are not to be distinguished from each other on the basis of age, socio-economic status and general self-concept. High academic self-concept children are initially found to have self-concepts of their academic abilities which are congruent with their I.Q. abilities whereas low academic self-concept children have a self-concept of their academic abilities which is incongruent with their I.Q. indication of abilities. Other differences in related affective and achievement variables were investigated in the remainder of the present study.

Instruments

Academic Self-Concept

The Student's Perception of Ability Scale (SPAS) was constructed to assess academic self-concepts of elementary school-age children. It was developed by Boersma and Chapman in 1977. The SPAS contains 70 forced-choice "yes-no" items relating to feelings and attitudes about competencies in five basic areas (reading, spelling, language arts, arithmetic and penmanship) and to school in general. Factor analysis was used to delineate six factors which were labelled: Perception of General Ability, Perception of Arithmetic Ability, General School Satisfaction, Perception of Reading and Spelling Ability, Perception of Penmanship and Neatness and

Confidence in Academic Ability (Boersma, Chapman & Maguire, 1979). The first five factors contain 12 items, whereas the sixth (Confidence) contains 10 items. Response acquiescence was controlled for by wording half the items negatively and the other half positively. Even though it is not mandatory, SPAS items were read aloud to the 116 children in the present study.

Technical data on the SPAS (Boersma, Chapman & Maguire, 1978) present a summated mean for grades 3 to 7 of 46.24 (SD = 11.71). Subscale intercorrelations were quite low (.68 to .387) whereas Full Scale correlations were considerably higher (.541 to .770). Not surprisingly, in view of the research which has demonstrated that reading is a prime indicator of a child's academic performance (Matthews, 1974), the Reading/Spelling subscale had the highest correlation with the Full Scale. Low subscale intercorrelations and significantly higher Fullscale/Subscale correlations suggest that each Subscale is relatively homogeneous while tapping a common domain. Cronbach's alpha for the Full Scale was .915, whereas Arithmetic, Reading/Spelling and Penmanship/Neatness recorded alphas from .822 to .855. General ability alpha was .785, School Satisfaction was .741 and Confidence was .686. Internal consistency was therefore expected to be of a high calibre in th SPAS.

Test-retest reliability over a four to six week period was .843 for the Full Scale, whereas Subscale stability coefficients ranged from .714 to .824. The statistical data suggest that the SPAS is a relatively reliable and stable instrument over time.

Two recent studies suggest that the SPAS has good experimental validity. Boersma and Chapman (1978) found that the SPAS clearly distinguished

between grade 3 learning disabled and normally achieving students who had similar mean Full Scale WISC-R scores. In another study, it was found that SPAS score differences were evident between special class elementary students and normally achieving students (Boersma, Chapman & Battle, 1979). In both studies, the reported academic self-concepts of special class and learning disabled children were considerably lower than the academic self-concepts of normally achieving students.

The SPAS has also been found to correlate negatively and/or nonsignificantly with Piers-Harris Children's Self Concept Scale. Intercorrelations between SPAS and Piers-Harris Full and Subscale scores varied from -.029 to .078 (Boersma & Chapman, 1978). SPAS scores were found to be correlated moderately with report card grades ($r = .489$) "while the Piers-Harris showed little, if any, relationship with school grades" (Boersma & Chapman, 1978, p. 827).

Boersma, Chapman and Maguire's (1979) research indicates that there is a homogeneity of variance in SPAS scores as well as a normal distribution of the trait, self-perception of academic ability. Although the SPAS does have a ceiling effect and the range of distribution for those above the mean is less than those below the mean, no student in either high or low group in the present study scored 70 or 0. To restrict the samples to a similar range, i.e. from 57 - 70 and 35 - 22 would have limited the sample sizes severely in the low SPAS group. It was deemed more important to keep sample sizes as similar as possible than to keep the range of scores stringently similar.

General Self-Concept

General self-concept, as distinct from academic self-concept, was measured by using the Piers-Harris Children's Self-Concept Scale. The 80-item "yes-no" scale consists of six subscales derived through factor analysis. The six subscales are labelled: Physical Appearance, Behaviour, Popularity, Anxiety, Happiness and Satisfaction, Intellectual and School Status. The Piers-Harris is intended for use in clinical settings and for psychological referral in educational contexts.

The test was normed on a population of 6th. graders in Pennsylvania. The scores may range from 0 (low self-concept) to 80 (high self-concept). The normative mean is 51.84 (SD = 13.87). Cronbach's alpha for the Full Scale in six studies ranged from .78 to .93. Test-retest reliability over a two-to-four month period was .77. Robinson and Shaver (1973) concluded that the Piers-Harris is a useful measure for research purposes.

The Piers-Harris is one of the most frequently used self-concept measures for elementary school children. Marx and Winne (1978) found that the Piers-Harris yielded higher mean subscale scores than other self-concept measures and they attributed this difference to response format. Children tend to have a bias to respond favorably on a "yes-no" format when they view themselves as average. Attempts to establish discriminant validity for the Piers-Harris subscales resulted in the finding that there may be hierarchial structures of the self-concept construct. The physical facet is "stringly confounded with social subscales" and there is a lack of "differentiation evident between the academic and social subtest" (Marx et al., 1978, pp. 104, 107). The Piers-Harris means for high-low groups were not significantly different and general self-concept was interpreted not to be descriptive of group differences in the present study.

Intelligence Tests

According to the Otis-Lennon test constructors, it is unfortunate that the term "intelligence" has frequently been equated with "innate capacity" (Otis & Lennon, 1969). Performance on the Otis-Lennon sample tasks "reflect a complex interaction of genetic and environmental factors"(Otis et al., 1969, p. 7). Their I.Q. tests measure the ability to deal with the abstract manipulation of the "verbal, numerical and figural symbol systems of our culture" (p. 7). These tasks are necessary for school learning in our culture and it is therefore not possible to measure in how far this abstract ability is formed in the school setting and to what extent it is independent of the school-related activities.

The Otis-Lennon Mental Ability Test Form K was administered to third and fourth grades in the two elementary schools by the classroom teachers. The 80 items of the test are designed to measure verbal comprehension, verbal reasoning, figural reasoning and quantitative reasoning abilities. Time limits are used in item completion and there are differences as to the interpretation of the effects of timing on test performance. Timing affects low ability students adversely but average ability students have little difficulty in completing tests in the specified time limits (Otis et al., 1069; Smith, 1970). Working speed is thus an ability index.

Standardization procedures involved about 12,000 pupils per grade in U.S. populations drawn at random from representative school systems. Public school means ranged around 97 for grades 3 and 4 (SD = 15). Otis-Lennon scores are generally expressed as deviation scores with a mean of 100 (SD = 16). Alternate-form reliability, split-half and Kuder-Richardson estimates were used to estimate precision, stability and reliability.

These correlation values range from .89 to .92 (SE ranges from 3.9 to 7.0).

The Otis-Lennon gives ample evidence of predicting scholastic success although some questions have been raised as to its validity in its assumption of measuring learned or developed abilities in a broader sense than school-related tasks. Correlations between Otis-Lennon and Lorge-Thorndike (as quoted in the manuals) range from .59 to .87 for the categories of verbal and non-verbal abilities. Correlations are lowest in the lower grades.

Buros' articles tend to favor the Lorge-Thorndike as superior to the Otis-Lennon (Buros, 1965, 1966). Lorge and Thorndike view intelligence as "the ability to deal with ideas and relationships among ideas" (p.2). The tests are measures of general intelligence which is expressed in verbal, pictorial, diagrammatic and numerical symbols. Like the Otis-Lennon, it does have items which measure mechanical, social or practical intelligence. The Verbal battery is comprised of 6 subtests and the nonverbal battery is made up of 3 subtests. These tests are also timed and completed without too much difficulty by children of average ability.

The Lorge-Thorndike tests have been normed on samples of Canadian students as well as U.S. students. At the time of the present research, the Edmonton schools used the Canadian norms with deviation I.Q.s adjusted for Canadian samples. The means are set at 100 (SD = 16). Reliability estimates range from .93 to .94 with odd-even and Kuder-Richardson estimates. Correlations as reported by Wright, Thorndike and Hagen (1972) between the Otis-Lennon and Lorge-Thorndike are considerably higher for grade 5 than for grade 3 ($r = .82$ for grade 5; $r = .52$ for grade 3). Predictive validity measures are higher for the Verbal tests than for the Non-verbal tests ($r's = .586$ to $.879$). The correlations between school marks, achievement

tests and Lorge-Thorndike are essentially in the .60s. Construct validity was determined in the comparisons with the Otis-Lennon and Stanford-Binet, but as with the Otis-Lennon construct validity measures, there are sampling difficulties and problems in determining to what extent the Lorge-Thorndike measures "general intelligence" apart from school-related activities.

Although the two tests are not identical and correlations between the two measures do vary considerably, the constructs which they do appear to be measuring are related to school abilities. In giving an index of this ability we do have an estimate of a cognitive entry characteristic for the students in the grades 3 to 6 groups,, which is not necessarily related to the affective entry characteristics of the student and the school situation.

Expectations

Self-Expectations were measured with the Projected Academic Performance Scale (PAPS) developed by Chapman and Boersma in the years 1977-'79. The 42-item multiple-choice items contribute to six subscales which are subject-specific (Spelling, Reading, Language Arts, Math, Social Studies and Science). The items ask students to predict their performance in the immediate, near and far future. Full Scale scores may range from 42 (low expectations) to 168 (high expectations). The four-choice responses are weighted on a four-point metric with a weight of 4 being assigned to the highest item expectation.

Technical data compiled by Chapman, Boersma and Maguire (1979) indicate a Full Scale mean over grades 3 to 6 of 121.41 (SD = 17.37). Inter-

nal consistency was good. Cronbach's alpha was .901 and the test-retest stability coefficient for a four-to-six week period was .801. The PAPS has a moderate correlation with end-of-the-year grades (r = .40) and it moderately predicts grades for the next school year (r = .38). Chapman et al. (1979) also reported that with regards to external validity, the PAPS clearly differentiated between grade 3 LD and normally achieving students. LD students reported significantly lower expectations. The PAPS is a relatively new instrument which was developed at about the same time as the SPAS and the normative data was compiled on many of the same subjects.

Mother and Teacher Expectations were gauged with a modified version of the PAPS. In a 12-item, multiple-choice questionnaire, mothers predicted child performances in Spelling, Reading, Language Arts, Math, Social Studies and Science for the next year and when the child is "older". The PAPS teacher's version consisted of class lists with subjects in columns where teachers were asked to rate each child on a four-point scale as to projected performance in the next year and when the child is "older".

At the time of assessing the PAPS -teacher and parent version the parents and teachers were also asked to rate each child on an additional category of "being surprised if the child would ever be good " in a subject. This category was later removed from the PAPS -teacher and parent versions since it did not differentiate significantly between groups. At the time of the present study, this additional category was included. Since the normative data was based on a PAPS -teacher and parent version without this category, a comparison of means and standard deviations would be misleading for the samples in the present study.

The correlation between teachers' expectations and grade-point averages of the students was high (r = .77). There was a moderate relationship between mothers' expectations and student grade-point averages. (r = .59)

Parental Reactions

The Intellectual Subscale of the Parent Reaction Questionnaire (PRQ) constructed by Crandall, Katkofsky and Preston in 1964 was used to assess mothers' reactions to their children's achievements in school. This subscale contains 12 items describing situations in which a child demonstrates successful or unsuccessful academic behaviour designed to elicit a parental reaction. The parent is asked to choose the most typical reaction from the five or six statements which follow the item description. The alternatives include positive statements (praise, affection,recognition, encouragement, reassurance), negative statements (criticism, annoyance, and correction) and a neutral reaction.

The scores which range from 0 to 12 yield separate measures of positive (IAR +) and negative reactions (IAR -). In the present study, parents were asked to rate one reaction per item. The number of positive and negative reactions were not included in the total positive and/ or negative reactions.

In a study of learning disabled children in elementary schools, Chapman (1979) did find positive and negative parental reaction differences between the groups of learning disabled and control children. Normative data is not available on the Parent Reaction Questionnaire at present although the PRQ has been used also in relating positive parental reactions to the development of internal locus of control by the test constructors (Katkofsky, Preston & Crandall, 1964).

Locus of Control

The short form of the Intellectual Achievement Responsibility Questionnaire (IAR) was used to assess academic locus of control (Crandall, 1968). The IAR short form consists of 20 items which are designed to measure a child's belief in responsibility for achievement outcomes. The items focus on the perception of control in situations which involve significant others such as teachers and parents, as well as peers. Half of the items pertain to responsibility for success experiences; the other half relate to failure experience responsibility. Scores in each subscale range from 0 to 10 (most external to internal, respectively). The short form is recommended for use with elementary school children.

Spearman-Brown split-half reliabilities are reported as .54 for success (I+) and .57 for failures (I-). The short form correlates about .90 with the longer form (Crandall, Katkofsky & Crandall, 1965). Test-retest reliabilities are in the range of .47 to .66 for the I+ scale and .69 to .74 for the I- scale (Robinson & Shaver, 1973). Convergent validity with report card grades is moderate (r = .30 to .50) and discriminant validity between IAR scales and I.Q. scores appears evident in low correlations (r's = .14 to .26).

The IAR is a carefully developed scale which has proven to be useful for measuring perceived control of school events in children. A number of studies have used the IAR and there are indications that it can be used as a meaningful predictor of school achievements (Robinson et al., 1973). As recommended, the scale was administered orally to all children in grades 3 to 6 in the present study.

Procedure

The Student's Perception of Ability Scale (SPAS) and Projected Academic Performance Scale (PAPS) were administered during the first testing session in the elementary schools. Two days later, the students were given the Intellectual Achievement Responsibility Questionnaire (IAR) and the Piers-Harris Children's Self-Concept Scale. The same experimenter administered all instruments and informed the children that these were questionnaires with no specific right or wrong answer but were designed to find out how children felt about themselves and their school. Children were told that their answers were confidential and that no teachers or parents would see their questionnaires.

Teachers were not present during the children's testing sessions. While their students were working with the experimenter, teachers were asked to complete the Projected Academic Performance Scale (PAPS- teacher version) for their classes.

Parent questionnaires were collected by mail. Parents were asked to complete the Projected Academic Performance Scale (PAPS -parent version) and Parent Reaction Questionnaire (PRQ+ and PRQ -). The parents involved were mothers. Confidentiality was also stressed with their questionnaires.

Report card grades were collected for all children in June of 1977 to assess students' achievements. A five-point scale was used for each subject so that the range of grades could be from 0 to 30.

Students in the 1977 groups were contacted in 1978 when they were in grades 4 to 7 and were given the SPAS and PAPS questionnaires to complete in school. The same female experimenter was present for this data collection

in both 1977 and 1978. Locating the 7th. graders was difficult in many instances since the children had moved to different schools in the city.

Hypotheses

Affective and Achievement Variable Group Differences

The main purpose of this aspect of the proposed study is to investigate whether high and low academic self-concepts are accompanied by differences in report card grades, self-expectations, expectations of the teachers and parents, reactions to achievement by parents and academic locus of control. If academic self-concept may be presumed to be a good index of the affective entry characteristics in school, then high and low academic self-concept children should be differentiated on these variables.

For children who have an extremely positive appraisal of their academic ability it may be expected that this attitude will be reflected in higher end-of-year report card grades and higher expectations for future academic performance as measured by the PAPS. Children with low academic self-concepts, on the other hand, are expected to reflect this pessimistic attitude in lower report card grades and self-expectations. Report card grades and self-expectations as measured by the PAPS are expected to be demonstrably different between the two groups.

Teacher expectations tend to be based on their perception of abilities and performances in the classroom. Expectations are transmitted to students in differential reactions. High academic self-concept children are expected to experience higher teacher expectations of future performance as measured by the PAPS (teacher version) than students with low academic

self-concepts.

For the elementary school child, parental expectations and reactions are also seen to be influential in the development of academic self-concept. Parental expectations are aligned relatively early with teacher expectations and report card grades. It is predicted that parents will have higher expectations of their children if they have high report card grades and positive academic self-concepts. Conversely, children who have negative academic self-concepts and low grades will tend to have parents who expect less of their school performance. Parental expectations are measured by the PAPS (parent version).

Parental reaction to their children's performances are contingent upon parental expectations and as such, they may also affect academic self-concept development. Positive and negative parental reactions tend to contribute to a child's feeling of self-worth. In the school situation, self-worth is translated into a perception of worth as academician. Positive reactions contribute to positive assessments of ability while negative reactions contribute to negative assessments of ability. Although one would expect that parents with low expectations of their children also perceive their children as having poor academic self-concepts, and thus would not react negatively to their children' school performances, it does appear that these parents have difficulty reacting positively to their children. Therefore, children with high academic self-concepts are expected to have more positive parental reactions, as measured by the PRQ+ while children with low academic self-concepts are expected to experience more negative parental reactions as measured by the PRQ-.

The experience and the perception of self as academically capable

should also contribute to an increased assumption of responsibility for success. Thus, students with high academic self-concepts should be more internally controlled for success experiences, where locus of control is assessed with the IAR+ scale. Since taking responsibility for success does not necessarily imply that the student also assumes responsibility for failures, there is some ambiguity with respect to an internal control for failures. For the high academic self-concept student, the infrequent failure experiences may be attributed to a lack of ability or effort (internal control) or it may be blamed on task difficulty and the teacher role (external control).

Although assuming responsibility for failure is often seen as too threatening for students, the low academic self-concept child's more frequent failures may be attributed to internal sources such as a lack of ability or effort. Conversely, the infrequent successes may more readily be attributed to external factors such as task ease and/or mood of the teacher. On the internal/external continuum of locus of control, it is expected that children with low academic self-concepts may be internally controlled for failure events (IAR-). Whether high academic self-concept children are externally controlled with failure and low academic self-concept children externally controlled with success, remains an ambiguous area which may be clarified in this study.

The sex differences as they were indicated in Table 1 analysis of variance with SPAS groups and sex, also needs to be investigated further. The only SPAS subscale which indicated that boys were significantly different from girls in academic self-concept was the School Satisfaction subscale. Boys appeared significantly less satisfied with school than

girls. Whether this difference is reflected in other areas, remains to be investigated in this study. Negative characteristics may have been developed in boys more readily and earlier than in girls since boys are more often identified as having learning problems. These negative attitudes towards school and self could be expected to result in lower report card grades, self-expectations, teacher expectations and parent expectations. Sex differences as indicated by the research on locus of control continuum will also be investigated further. Parental reactions are expected to indicate more group than sex differences.

In summary, the following hypotheses were proposed:

1.1 High-Low academic self-concept groups will be significantly different in their academic performance as measured by report card grades, their self-expectations, teacher expectations and parent expectations with High SPAS students consistently doing better.

1.2 Whereas children with high academic self-concepts will experience more positive parental reactions and a greater internal responsibility for success, children with low academic self-concepts will experience more negative parental reactions and a greater internal responsibility for failure.

1.3 Sex differences may be present in report card grades, expectations, parental reactions and locus of control.

Affective and Achievement Variable Interrelationships

High and Low academic self-concept children are at the extremes of the continuum of academic self-concept measures in the total school population. The interplay of characteristics which Chapman (1979) reported for report card grades, self-expectations, teacher expectations and parent expectations in the total school population of 429 students would be expected to be present similarly in the extreme groups. A difference would be expected in the High and Low academic self-concept groups which could help

to gain insight into the possible reasons for the extreme SPAS scores. The lack of meaningful relationships between parental reactions and locus of control and academic self-concept in the total population (Chapman, 1979) need not necessarily be duplicated in the extreme groups. Of greater interest would be to study whether the interrelationships of variables are different for the High SPAS group than for the Low SPAS group.

Academic self-concept is intrinsically related to the school situation, and as such, the variables which would be expected to be most influential in this self-concept formation would be those which are most school-specific. Whether report card grades, self-expectations and the teacher expectations are more school-specific than parental expectations, reactions and locus of control remains to be seen in their relative effects on academic self-concept. Interrelationships with academic self-concept would be highly significant in the High-Low groups since the use of extreme grouping tends to reduce correlation coefficients substantially (Neale & Liebert, 1973).

High and Low academic self-concept groups were essentially created artificially on the basis of their SPAS score deviations. For SPAS scores to be a valid index of the affective entry characteristics, it would have to be demonstrated that these groups are also different as groups when academic self-concept is not included as a variable.

In connection with the interrelationships of variables which differentiate the High-Low SPAS groups, the following hypotheses were proposed:

> 2.1 Report card grades, self-expectations and teacher expectations will be related more significantly in extreme High-Low groups than parental expectations, reactions and locus of control.

2.2 High-Low groups will also be High-Low groups on the variables of report card grades, self-expectations, teacher expectations, parental expectations and reactions and locus of control, but these variables will be interrelated differently for High and Low SPAS students.

Interrelated and Predictive Variables of Academic Self-Concepts in 1978

The research indicates that academic self-concept is relatively stable over time and continues to account for up to about 25% of the variance on school achievement (Bloom, 1976; Hamachek, 1978). The extreme High and Low academic self-concepts in the groups of the present study are originally seen to be inconsistent with their potential or ability for academic achievement as measured in I.Q. scores. Whether this inconsistency remains stable in the next school year when the conditions of teacher, school, class stratifications, report card feedback in June, re-alignment of self-expectations with academic performance and other possible changes have occurred, is a question which should be investigated. Are these academic self-concepts expected to be the same in the next school year? If SPAS scores remain stable for the extreme groups and continue to be affected by the grades, expectations and reactions of significant others, then the future looks bleak for the students with extremely low academic self-concepts.

Specifically, the research hypothesis can be stated thus:

3. Determine whether academic self-concepts, report card grades, self-expectations, teacher expectations, parental expectations and reactions and locus of control variables in 1977 contribute significantly to the prediction of academic self-concepts in 1978. The 1977 academic self-concepts will be the best predictors of the 1978 academic self-concepts in the High-Low groups.

Design

The hypotheses which have been presented here were tested by means of various statistical designs. The first hypotheses which were meant to determine group differences on the variables of report card grades, self-expectations, teacher expectations, parental expectations and reactions, and locus of control, were tested with a 2 X 2 analysis of variance design. The respective levels were group (High-Low) and sex.

The second hypotheses were tested with the use of point-biserial correlations which are product-moment correlations. Interrelationships of variables are presented for the High-Low groups as correlation coefficients. A discriminant function analysis was used on the basis of an analysis of variance and correlation coefficients to determine whether group differences on the variables of report card grades, self-expectations, teacher and parent expectations, parental reactions and locus of control are also as extreme as the High-Low SPAS groups. The discriminant analysis is, in a sense, a duplication of the other statistical analyses utilized previously in the study and it will be presented as a diagram rather than statistically with the repetition of analysis of variance and correlational results.

Product-moment correlation coefficients were also calculated for the variables of academic self-concept, report card grades, self-expectations, teacher expectations, parental expectations and reactions and locus of control with academic self-concepts (SPAS) in 1978. These product-moment correlations were part of the basis of the multiple linear regression analysis which was conducted to determine whether

academic self-concept is stable for the extreme High and Low groups. Since multiple regression should ideally be used with larger samples than were present in this study, the emphasis in the analyses will be on the correlation matrix rather than the multiple regression results.

CHAPTER IV

RESULTS

In presenting the results, the analysis of variance summaries will be given to determine group and sex differences on the variables of report card grades, self-expectations, teacher and parent expectations, parental reactions and locus of control. These variables will involve the 1977 data and will be presented in the order stated.

To determine which variables are most directly related with each other and with academic self-concept (SPAS), point-biserial product moment correlation coefficients are presented as matrices for the extreme groups combined and separately. This aspect of the second hypotheses focussed on the differences in the significant variable interrelationships between the two groups in 1977. Discriminant function diagrams are presented to highlight the differences between the two groups when SPAS is not included as a variable.

The variables which are correlated most significantly with academic self-concept in 1978 are identified in a correlation matrix of the multiple regression analysis. The multiple regression analysis involved the 1977 variables of report card grades, academic self-concept, expectations, reactions and locus of control to predict the criterion of SPAS scores in 1978.

Analysis of Variance Design

To facilitate in the subsequent discussions, the 2 X 2 analysis of variance design results are presented in Tables 4, 5, 6, 7, and 8. Each table presents the ANOVA summary for the respective variables of report

card grades, self-expectations, teacher expectations, parent expectations, parental reactions and locus of control. Table 9 lists the relevant means and standard deviations for all these variables unless reported otherwise. Group membership and sex were the levels used in these analyses. All Total Scale scores are reported but Subscale analyses are given only when sex and/or interaction effects were determined to be present.

Table 4 presents the ANOVA summary data for report card grades in 1977. High-Low group differences were observed in total grades ($F = 58.422$; $p < .001$). Sex differences were also observed in report card total grades ($F = 6.579$; $p < .05$). There were no significant interaction effects ($F = .731$; $p < .05$). From this analysis it can be observed that High academic self-concept students receive significantly higher report card grades than the Low academic self-concept students. High SPAS students had higher mean grades in all subjects of the report card grades than the Low SPAS students. Girls in the High SPAS group recorded the highest mean whereas boys in the Low SPAS group had the lowest mean score (24.813 and 18.806 respectively) Table 9 lists the means and standard deviations.

Although High-Low group differences are statistically significant for all subjects of the report card grades, sex differences are evident primarily in the subjects of Arithmetic, Language and Social Studies ($F's = 9.317$; 5.281; 10.014;respectively). No interaction effects were observed to be statistically significant on the specific subjects.

Contrary to popular misconceptions, girls recorded higher grades in Arithmetic for the High and Low groups, as well as in Social Studies,

Table 4

ANOVA Summary Data for Report Card Grades for 1977

Scale	Source	df	M.S.	F-Ratio	p
Report Cards					
Reading	A (Group)	1	16.193	30.079	.000*
	B (Sex)	1	1.258	2.336	.129
	AB	1	8.911	1.693	.196
	Errors	112	0.538		
Language	A (Group)	1	21.314	32.741	.000*
	B (Sex)	1	3.438	5.281	.023*
	AB	1	0.285	0.438	.509
	Errors	112	0.651		
Spelling	A (Group)	1	18.592	36.965	.000*
	B (Sex)	1	0.116	0.232	.631
	AB	1	1.397	2.778	.099
	Errors	112	0.503		
Arithmetic	A (Group)	1	12.706	27.508	.000*
	B (Sex)	1	4.303	9.317	.003*
	AB	1	0.309	0.669	.415
	Errors	112	0.462		
Social Studies	A (Group)	1	13.600	26.483	.000*
	B (Sex)	1	5.146	10.014	.002*
	AB	1	0.008	0.015	.902
	Errors	112	0.505		
Science	A (Group)	1	13.913	27.547	.000*
	B (Sex)	1	0.141	0.279	.598
	AB	1	0.409	0.279	.370
	Errors	112	0.505		
Total Grades	A (Group)	1	572.848	58.442	.000*
	B (Sex)	1	64.484	6.579	.012*
	AB	1	7.164	0.731	.394
	Errors	112	9.802		

*significant effect

and Language. High group girls' means for Language, Arithmetic and Social Studies were 4.313, 4.156 and 4.313 (SDs = .583, .617, and .634 respectively) whereas High group boys' means were 4.965, 3.781 and 3.903 (SDs = .759, .751 and .777) for the same subjects. Similarly, Low group girls outranked the boys in these same subjects (Low Girls' means: 3.545, SD = .722; 3.591, SD = .577; 3.636, SD = .643; Low boys' means: 3.097, SD = 1.072; 3.097, SD = .689; 3.194, SD = .737)in Language, Arithmetic and Social Studies. Boys appeared to do better in Science but this difference was not significant statistically at the .05 level of probability.

Because girls tended to have consistently high mean Subscale scores, the sex difference in the Total scores are indicative of more differences than those recorded on the three subjects of Language, Arithmetic and Social Studies. Girls consistently do better than boys in the High SPAS group and usually in the Low SPAS group.

Table 5 lists the ANOVA summary data for self-expectations in 1977 on the basis of the Projected Academic Performance Scale (PAPS). No subscale analyses are presented since there were no sex effects or interaction effects on any of these subscales. High-Low group differences are statistically significant on self-expectations for future academic performance ($F = 81.655$; $p < .001$). Mean differences between the groups appear to be substantial, especially in light of the normative mean of 121.41 (SD = 17.37) as quoted on page 65 of the present study. Means and standard deviations for this scale are also presented on Table 5. Although girls appear to have higher self-expectations than boys (High girls' mean = 136.000 vs. Low boys' mean = 109.387) sex differences were statistically not significant since High boys had scores comparable to High girls and Low girls were lower than the boys in their Low group (Low girls' mean = 105.727).

Table 5

ANOVA Summary Data for Self-Expectations in 1977

Scale	Source	df	M.S.	F-Ratio	p
Total Expectations	A (Group)	1	21963.000	81.655	.000*
	B (Sex)	1	44.000	0.164	.687
	AB	1	167.000	0.621	.442
	Errors	112	268.973	0.621	

Means and SDs for Subscale and Total Self-Expectations Scale in 1977

	High Group				Low Group			
	Boys (31)		Girls (32)		Boys (31)		Girls (22)	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Reading	21.677	3.335	22.625	3.398	17.032	4.447	16.273	3.544
Spelling	22.645	3.848	23.531	3.122	18.516	4.885	18.775	2.827
Arithmetic	20.839	3.836	22.406	4.053	17.323	4.638	16.909	3.288
Language	24.129	3.580	23.219	4.059	18.742	6.096	17.182	4.185
Social St.	22.419	3.452	221656	3.788	18.742	5.639	18.500	3.538
Science	23.097	4.067	21.563	3.741	19.032	4.842	18.091	4.122
Totals	134.806	16.007	136.000	18.243	109.387	15.595	105.727	13.471

Group differences on self-expectations clearly indicate that High SPAS group children also have higher self-expectations than Low SPAS group children.

Table 6 presents the ANOVA summary for teacher expectations. Since no sex or interaction effects were observed to be significant for teacher Total expectations and Subscale expectations, only Total analysis of variance results are presented along with the means and standard deviations of total teacher expectation scores and subscale scores.

High-Low group differences are evident in teacher expectations ($F = 32.317$; $p < .001$). No sex and interaction effects were observed to be statistically significant. High SPAS group students experience higher teacher expectations of their future academic performance than Low SPAS group students. This is also evident in a survey of the means. High group girls and and boys' means were 57.031 (SD = 9.544) and 56.323 (SD = 10.350) as compared to Low group girls 'and boys' means of 47.773 (SD = 9.371) and 44.389 (SD = 8.785).

Table 7 lists the ANOVA summary data for parental expectations as recorded in the Projected Academic Performance (PAPS - parent version). High-Low group differences were significant on parental expectations ($F = 26.517$; $p < .001$). Sex differences were also significant for Total parent expectations ($F = 6.427$; $p < 105$). Interaction effects were not significant. It appears that mothers of High SPAS group children also have higher expectations of their children's performance than Low SPAS group children's mothers.

Mothers expect daughters to do better than boys regardless of the group to which they appear to be belong. Total mother expectations for

Table 6

ANOVA Summary Data for Teacher Expectations in '77

Scale	Source	df	M.S.	F-Ratio	p
Teacher Expectation Totals:	A (Group)	1	3047.000	32.317	.000*
	B (Sex)	1	94.000	0.997	.320
	AB	1	34.938	0.371	.544
	Errors	112	94.285		

*significant effect

Means and SDs for Teacher Expectations Subscale and Total in 1977

	High Group				Low Group			
	Boys(31)		Girls(32)		Boys (31)		Girls (22)	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Reading	9.710	1.900	9.594	1.885	7.484	1.811	8.409	1.825
Spelling	9.290	2.051	9.594	1.617	7.097	1.941	7.818	1.874
Arithmetic	9.774	2.011	9.469	1.677	7.355	1.927	7.682	2.323
Language	9.194	1.712	9.500	1.854	7.742	1.703	7.955	1.551
Social St.	8.903	1.873	9.563	1.413	7.742	1.703	8.136	1.575
Science	9.452	1.583	9.313	1.588	7.419	1.476	7.773	1.623
Totals	56.323	10.350	57.031	9.544	44.839	8.785	47.773	9.371

Table 7

Parental Expectations for the High-Low groups in '77

Scale	Source	df	M.S.	F-Ratio	p
Reading	A (Group)	1	65.828	20.872	.000*
	B (Sex)	1	26.750	8.481	.004*
	AB	1	1.339	0.425	.516
	Errors	112	3.154		
Spelling	A (Group)	1	69.902	26.233	.000*
	B (Sex)	1	34.570	12.974	.000*
	AB	1	1. 570	0.589	.444
	Errors	112	2.664		
Arithmetic	A (Group)	1	26.055	12.533	.000*
	B (Sex)	1	25.422	12.229	.000*
	AB	1	1.559	0.749	.388
	Errors	112	2.079		
Language	A (Group)	1	49.121	14.868	.000*
	B (Sex)	1	1.605	0.486	.487
	AB	1	1.516	0.458	.499
	Errors	112	3.304		
Social Studies	A (Group)	1	16.909	6.569	.012*
	B (Sex)	1	2.152	0.833	.363
	AB	1	0.027	0.010	.918
	Errors	112	2.583		
Science	A (Group)	1	21.117	8.072	.005*
	B (Sex)	1	0.223	0.085	.771
	AB	1	4.410	1.685	.196
	Errors	112	2.616		
Totals	A (Group)	1	1391.440	26.517	.000*
	B (Sex)	1	337.250	6.427	.013*
	AB	1	51.250	0.977	.325
	Errors	112	52.472		

*significant effect

boys in the Low SPAS group appear to be considerably lower than for the girls in the Low group (Boys' mean = 49.387 vs, Girls' mean = 54.182). Differences between boys and girls in the High group were not as striking (Boys' mean = 57.742 vs. Girls' mean = 59.844).

Although High-Low group differences were significant for parental expectations in all specific school subjects, the sex differences were not as consistent. No interaction effects were observed on any of the subtests. High group students are expected to do better than Low group students in all subjects.

Parents usually expect the girls to do better than the boys in all school subjects. Differences in their expectations were not statistically significant for all subjects. Sex differences which were statistically significant were in the subjects of Reading, Spelling, Arithmetic. In these subjects mothers consistently expected the daughters to do better than the sons regardless of group membership. High SPAS girls were expected to do better than High SPAS boys in Arithmetic, Reading and Spelling and Low SPAS girls were expected to do better than Low SPAS boys in the same subjects. Means and standard deviations are presented in Table 9. The only subject in which any subgroup of boys scored higher mean expectations than girls was in Science for High group boys but this difference was not statistically significant.

Table 8 presents the ANOVA summary data for parental reactions and students' locus of control. Means and standard deviations for these variables are also presented in Table 9.

Parental reactions, whether they be positive or negative did not differentiate significantly between groups. No High-Low group differences

Table 8

ANOVA Summary Data for Parent Reaction (PRQ+, PRQ-)
and Locus of Control (IAR+, IAR-)

Scale	Source	df	M.S.	F-Ratio	p
PRG+	A (Group)	1	6.681	1.838	.178
	B (Sex)	1	4.251	1.169	.282
	AB	1	2.915	0.802	.372
	Errors	112	3.635		
PRG-	A (Group)	1	9.794	2.882	.092
	B (Sex)	1	6.008	1.767	.186
	AB	1	2.814	0.828	.365
	Errors	112	3.399		
IAR+	A (Group)	1	109.750	33.552	.000*
	B (Sex)	1	0.223	0.068	.795
	AB	1	11.765	3.597	.060
	Errors	112	3.271		
IAR-	A (Group)	1	20.313	2.964	.088
	B (Sex)	1	10.609	1.548	.216
	AB	1	0.000	0.000	1.000
	Errors	112	6.854		

*significant effect

were evident in the reactions of their parents (mothers) to their academic successes and/or failures. Mothers do not appear to be more positive towards High SPAS students nor more negative in their reactions to the Low SPAS students. No sex effects were evident in parental reactions. No interaction effects were indicated.

On the locus of control continuum, High-Low group differences are evident in locus of control for successes. No sex or interaction effects were evident on the IAR+ scale. It appears that High SPAS students do assume greater responsibility for academic success than Low SPAS students (High means are 7.688 and 8.419 vs. Low means of 6.364 and 5.806).

No statistically significant differences were found between the High-Low groups on the locus of control for failure continuum. No sex and interaction effects were evident. It does not appear to be true that Low academic self-concept students would more readily attribute their failures to internal reasons than High academic self-concept students.

To summarize, it can be stated that the first hypothesis (1.1) appears to be confirmed. Children with high academic self-concepts do have higher report card grades, higher self-expectations, teacher expectations and parental expectations than children with low academic self-concepts. Children with high academic self-concepts also experience more internal control (Hypothesis 1.2) than children with low academic self-concepts. High academic self-concept children do not, however, experience more positive parental reactions nor do low academic self-concept children receive more negative parental reactions and assume more responsibility for failures (1.2).

Table 9

Means and SDs for High-Low Boys'and Girls' Report Card Grades, Parental Expectations, Reactions (PRQ+, PRQ-) and Control (IAR+,IAR-)

	High Group				Low Group			
	Boys (31)		Girls (32)		Boys(31)		Girls (22)	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Report Card:								
Reading	4.000	.672	4.031	.809	3.065	.759	3.455	.582
Language	4.065	.759	4.313	.583	3.097	1.027	3.545	.722
Spelling	4.065	.715	3.906	.678	3.032	.695	3.318	.699
Arithmetic	3.871	.751	4.156	.617	3.097	.689	3.591	.577
Social St.	3.903	.777	4.313	.634	3.194	.737	3.636	.643
Science	3.903	.734	4.094	.678	3.323	.779	3.273	.538
Totals	23.806	3.247	24.813	3.056	18.806	3.257	20.818	2.552
Parent Expectations:								
Reading	9.874	1.896	10.625	1.340	8.129	2.012	9.318	1.634
Spelling	10.194	1.839	11.063	1.223	8.387	1.754	9.727	1.513
Arithmetic	9.194	1.654	9.906	1.465	8.000	1.107	9.182	1.369
Language	9.806	1.594	9.813	1.844	8.258	1.900	8.727	1.788
Social St.	9.226	1.896	9.469	1.870	8.419	1.338	8.727	.686
Science	9.452	1.828	8.969	1.667	8.194	1.446	8.500	1.270
Totals	57.742	8.281	59.844	7.071	49.387	7.110	54.182	5.149
PRQ+	5.871	2.059	5.938	1.713	5.065	1.664	5.773	2.087
PRQ-	5.645	1.893	5.500	1.677	6.458	1.603	5.773	2.130
IAR+	8.419	1.386	7.688	1.775	5.806	2.116	6.364	1:746
IAR-	5.677	2.889	6.281	2.864	6.516	2.061	7.136	2.282

Sex differences are indicated between the High-Low groups in that girls generally receive higher report card grades than boys who hold similar academic self-concepts. Parents more often expect girls to do well and the parents of low academic self-concept boys have the lowest expectations of their children's future performances in school. Sex differences were not present as stated in the other variables of hypothesis 1.3.

Correlational Data

To investigate the interrelationships between the achievement and the affective variables in this study, product-moment correlations were calculated for the two extreme groups. The use of extreme groups in correlational data tends to restrict the possibility of finding significant variables since correlation coefficients are generally lower when extreme groups are involved (Neale & Liebert, 1973). Differences in variable interrelationships do become evident in studying the variables which are significantly interrelated in one group but not in another. Since SPAS scores are by definition of the groups restricted in range, few, if any statistically significant correlation coefficients would be expected in the SPAS interrelationships with other variables in the present High-ow groups. SPAS was included as a variable since previous studies had indicated that SPAS correlated moderately with Total school population variables of report card grades, self-expectations, teacher and parent expectations.

A criterion level of statistical significance was set at .30 for coefficients at the .001 probability level. Although it could be argued that a coefficient of less than .30 is also psychologically sig-

nificant, the present study's scope was intended to delineate variables which were statistically as well as psychologically significant. It was decided that coefficient differences of at least .275 were necessary to justify a discussion of those variable differences between the two groups as being psychologically significant.

Total scale scores were used in the correlation matrix for SPAS scores, self-expectations, teacher expectations, parent expectations and report card grades. Including subscale scores would have confused the issues in terms of variable similarities and commonalities. Table 10 lists the product-moment correlations for the two groups. The usual order of listed variables has been changed so that report card grade' correlation coefficients can be delineated more clearly.

In the low academic self-concept group, few coefficients reached the criterion level of .30. Teacher expectations and parental expectations correlated substantially with the report card grades (r's = .510 and .468, respectively) indicating that in the Low SPAS group the two variables which interrelate most meaningfully with a student's academic performance are those which involve the expectations of performance by the teachers and parents. Parents and teachers are considerably better predictors of report card grades than the student him/herself who is in the Low group. Self-expectations did not come near the criterion level but indicated a negative correlation if there was one at all (r = -.076).

Parental reactions and locus of control variables failed to reach the criterion level in all the correlation coefficients of interrelationships. Positive parental reactions seemed to indicate a possible significant relationship with parental expectations in the Low group but this

Table 10

Product-Moment Correlations for the Affective Variables and Report Card Grades in the High and Low SPAS groups

		Low Group (N=53)								
		Academic Self-Concept	Self- Expectations	Teacher Expectations	Parent Expectations	PRQ+	PRQ-	IAR+	IAR-	Report Card '77
		1	2	3	4	5	6	7	8	9
High Group (N=63)	1	-	.108	.224	.230	.197	-.179	.147	-.170	.264
	2	.099	-	.043	-.141	-.033	-.020	.157	-.192	-.076
	3	.098	.304*	-	.057	.013	-.030	.141	.008	.510*
	4	.080	.361*	.360*	-	.256	-.215	.044	.078	.468*
	5	.233	.052	-.052	.131	-	.939*	-.084	-.256	.098
	6	-.186	-.045	-.017	-.134	-.934	-	.129	.183	-.095
	7	.216	.170	-.003	.136	-.034	.061	-	.246	.075
	8	-.093	-.046	.212	.191	.023	-.041	.158	-	.200
	9	.142	.275	.683*	.519*	.068	-.146	.146	.288	-

*significant correlation coefficient

coefficient did not meet the criterion level (r = .256). Parental reactions and locus of control for successes or failures do not appear to contribute significantly to any of the other variables involved.

Not surprisingly, SPAS scores did not reach the criterion level. This failure would be contributed substantially to the lack of normal distribution in the SPAS scores of the Low group. SPAS scores in the Low group did correlate third highest if one were to rank correlation coefficients in terms of size (r = .264). The indications are present that academic self-concept is related to report card grades, teacher and parent expectations but these relationships are not statistically significant in the Low academic self-concept group.

In the High SPAS group, there are a greater number of statistically significant interrelationships. High academic self-concept children appear to hold expectations for self which are correlated meaningfully with teacher and parent expectations (r's = .304 and .361). The teachers and parents have expectations which are more congruent for High SPAS students than Low SPAS students (r's = .360 vs. .057). Teacher and parent expectations appear to contribute very highly to report card grades in 1977 (r's = .683 and .519) also and are good indicators of the students' academic performance in the High SPAS group.

Self-expectations failed to reach the correlation coefficient criterion level in the High SPAS group although they were more indicative of academic performance than the SPAS scores in the High group (r's = .275 vs. .142). Parental reactions and locus of control variables did not reach the criterion level. The IAR- continuum did approach the criterion of .30 in its interrelationship with report card grades (r = .288) and this

suggests that possibly High SPAS students' academic performance is related to their ability to accept responsibility for their failures. Failing to reach the criterion level, however, does caution one against jumping to those conclusions at present.

SPAS scores' correlations with other variables also did not reach the criterion level on any of the coefficients. In the High group, SPAS scores do not appear to be good indicators of present academic performance. The highest SPAS correlation coefficient was with parental reactions but this coefficient did not reach the criterion level ($r = .233$).

High-Low SPAS group differences as measured by a correlation coefficient difference of .275 with one of the coefficients reaching a criterion level, indicates that High SPAS students experience a greater congruency of expectations of self with teacher and parent expectations. The only significant coefficient difference, according to the decided difference of .275, between High and Low groups was evident in the discrepancy between teacher and parent expectations for the two groups. High group students' teachers and parents held expectations of their performance which correlated significantly ($r = .360$) whereas Low group students' experienced no similar congruency of expectations from significant others.

Although the differences in coefficients failed to reach the criterion of .275, the self-expectations for the High group reached considerably higher coefficients of correlation with teacher and parent expectations when compared to the Low group. High SPAS students' correlations of self-expectations with teacher and parent were .304 and .361 whereas Low group students' correlation coefficients did not even come close to the criterion level on those variables (r's = .143 and .141 for self-

expectations with teacher and parent expectations, respectively).

In summary, the interrelationships of variables are significantly different for children with high academic self-concepts as compared to children with low academic-self-concepts. High group children appear to indicate a similarity of expectations of self, teachers and parents with report card grades. Low group children's teachers and parents are relatively accurate in assessing the children's performance in school but these children's self-expectations are not consistent wiht their performance nor with the teacher and parent expectations. Although teachers and parents indicate an awareness of the low SPAS child's academic performance, they also do not seem to have the same kinds of expectations for the child ($r = .057$).

A further clarification of the variables which are correlated most significantly with High-Low group differences is a point-biserial correlation matrix in Table 11. These correlations are not necessarily lower because of a restricted range since both groups are included in this analysis. The most useful correlations in this matrix for our present purposes are those which involve High-Low group membership. This matrix can be considered a good summary of the variables which distinguish between these groups on the variables of academic self-concepts, self-expectations, teacher expectations, parental expectations, parental re actions, locus of control and report card grades.

High-Low group membership correlates significantly with academic self-concept, self-expectations, teacher expectations, parental expectations, locus of control for success and report card grades. The extremely high correlation with SPAS is to be expected since the groups are based

on SPAS extremes to define the group membership. Self-expectations are highly correlated with the groups (r = .647) whereas teachers' and parent expectations are correlated moderately with High-Low groups (r's = .483 and .451, respectively). Group membership also correlated moderately with locus of control for success (.485) and highly with the report card grades (.592).

When the groups are combined in this matrix it is clear that the academic self-concept is related to self-expectations, teacher and parent expectations, locus of control for success and report card grades. Academic self-concept was highly correlated with self-expectations and report card grades (r's = ,643 and .615, respectively). Teacher and parent expectations and locus of control for success correlated moderately with academic self-concept (r's = .504, .472, and .506). No other variables were found to correlate significantly with academic self-concept.

Self-expectations in the High-Low groups correlated moderately with teacher expectations, parent expectations, locus of control for success and report card grades (r's = .454, .410, .409, and .467, respectively) Teacher expectations were correlated moderately with parent expectations (r = .404) and very highly with report card grades (r = .715). Parent expectations correlated highly with report card grades (r = .624). Locus of control for success correlated moderately with report card grades (r = .364).

In view of the matrices of Table 10 in which the variable interrelationships were investigated, the point-biserial correlations are not surprising. The high correlations of the variables with report

Table 11

Point-Biserial Correlation Matrix of 1977 Variables of High-Low Groups

	High-Low Group Membership	Academic Self-Concept(SPAS)	Self-Expectations	Teacher Expectations	Parent Expectations	PRQ+	PRQ-	IAR+	IAR-	Report Card Grades '77
	1	2	3	4	5	6	7	8	9	10
1	-	.956*	.647*	.483*	.451*	.143	-.175	.485*	-.150	.592*
2		-	.643*	.504*	.472*	.194	-.218	.506*	-.179	.615*
3			-	.454*	.410*	.110	-.135	.409*	-.194	.467*
4				-	.404*	.048	-.105	.285	.046	.715*
5					-	.226	-.227	.289	.065	.624*
6						-	-.938*	.018	-.104	.150
7							-	-.002	.073	-.201
8								-	.092	.364*
9									-	.112

*significant effect

card grades were already evident when the correlation coefficients were analyzed for the groups separately. The moderate correlation coefficients of the expectations are a reflection of the moderate correlations in the High group and the insignificant correlations in the Low group.

Academic self-concept does appear to be a significant affective variable in the correlation matrix. The variables with which it seems to have the greatest common variance are self-expectations and the report card grades. It seems likely that in these extreme groups SPAS may be considered a good indicator of the academic performance and the self-expectations which often influence the effort towards that performance.

Teacher expectations do not appear to deviate greatly from the report card grades which are given a few months later. Parents are able to assess report card grades quite accurately a few months before they are given. Children in the extreme groups appear to be able to assess their report card grades less well than their teachers and parents. In view of the inability of the Low group children to predict their grades, this moderate correlation of .467 for self-expectations and report card grades is not surprising.

In summary, although the variables of report card grades, academic self-concept, self-expectations, teacher expectations and parental expectations as well as locus of control for success do distinguish do indicate a relationship with High-Low group membership, these variables are interrelated differently for the two groups. A more detailed analysis of the variables which differentiate between these two groups will be presented in the following discriminant function analysis.

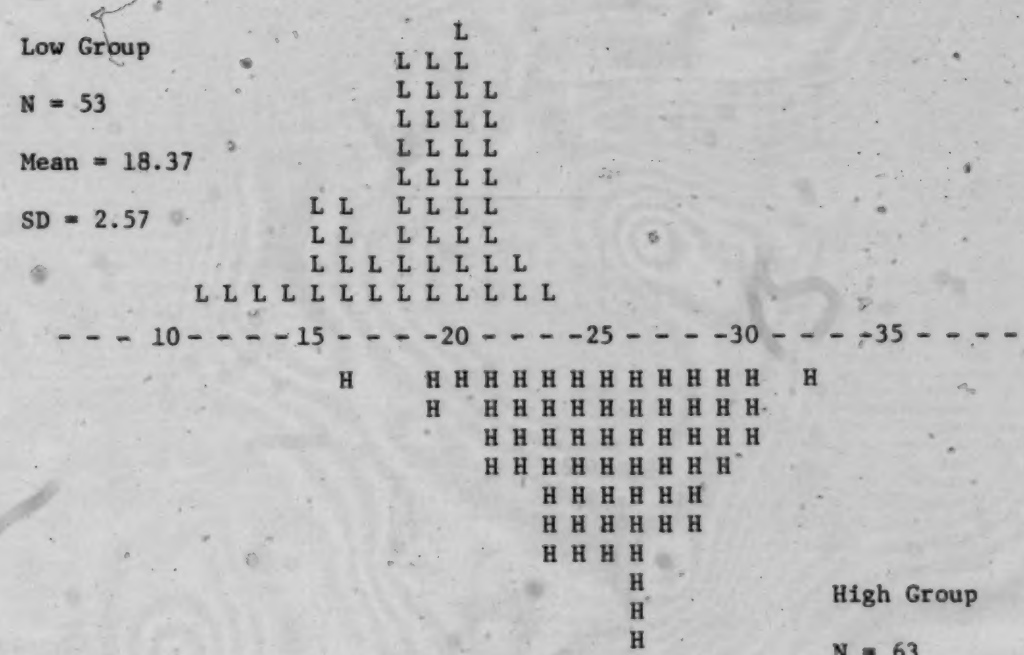
Discriminant Function Analysis

Discriminant function analysis is a rather sophisticated mathematical analysis which is infrequently used in educational/psychological research because its weighting of variables tends to mislead rather than enlighten the statistically inexperienced researcher. In the present study, discriminant analysis was not used to determine the respective weights of the variables but to confirm or deny that separate groups result as a function of the variables of the 1977 grades, expectations, reactions and locus of control when SPAS is not included as a variable (Hypothese 2.2). Total scores were used in the analysis for report card grades, self-expectations, teacher expectations and parental expectations of the 1977 data.

Discriminant scores are the result of an analysis in which the variables have been examined in a correlation matrix of the groups and an analysis of variance has tested the significance of the differences between the groups. The discriminant analysis as presented here is used only in the descriptive sense of determining that there are group differences which can be depicted as separating these groups on the basis of their discriminant scores. Since analyses of variance and correlation matrices have been presented and discussed previously, they will not be presented in the present discriminant analysis discussion.

In discriminant analysis, scores are assigned which have taken into account the individual's performance on all the variables after these are assigned normalized weights to take test item number into account and standard weights which have accounted for standard deviations in the variable distributions. The resulting discriminant scores were plotted in Figure 1. The Low group mean for the variables without SPAS was 18.37 (SD = 2.57) and the High group mean was 25.05 (SD = 3.05).

Figure 1 *



*Discriminant Scores are a function of 8 variables:

Report card grades 1977

Teacher Expectations

Parent Expectations

Self Expectations

Locus of control (IAR+ and IAR-)

Parental Reactions (PRG + and PRG -)

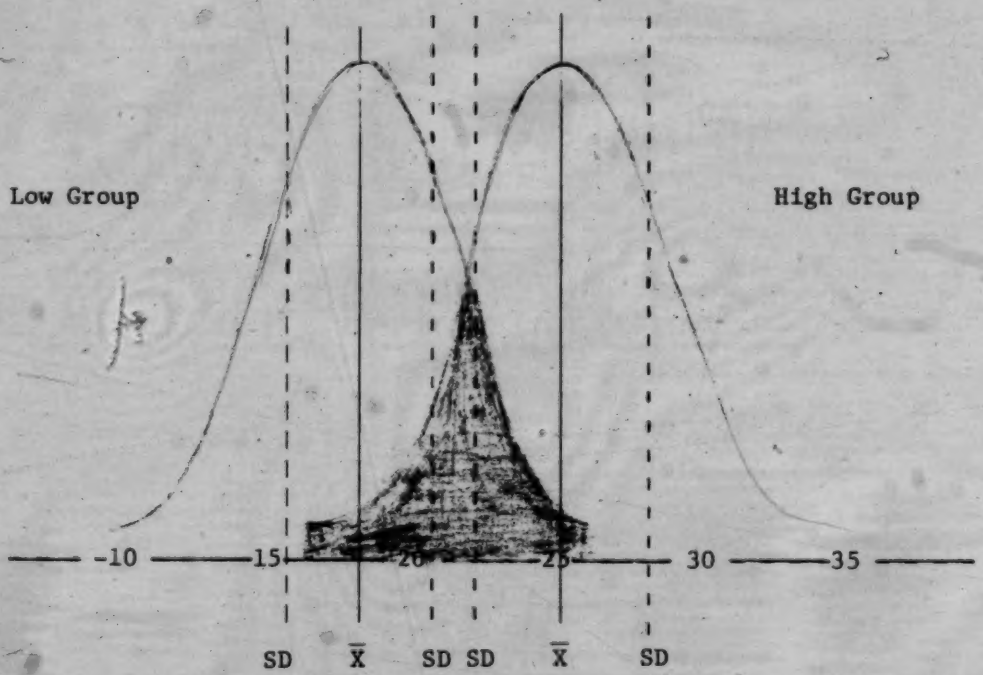
Because the actual distributions of the two groups' discrimiant scores illustrate peaked curves (Figure 2), some caution must be exercised in making too many assumptions and conclusions on the basis of these scores. The range of discriminant scores is relatively restricted (11 to 32) for 116 subjects and few scores are at the extremes of either group.

Although the two groups are not as drastically different on the variables of report card grades, expectations, reactions and locus of control as they are on the variable of SPAS scores, it does appear to be true that we have two distinct groups on the basis of these variables. The area of overlap between the two groups is plotted in Figure 2. If one assumes a normal distribution of scores for each group, then less than 15%-of the High group had a discriminant score which approximated the mean of the Low group and less than 15% of the Low group had a score which approximated the mean of the High group.

The variables which were found to discriminate significantly between these two groups were the variables of report card grades, self-expectations, teacher expectations, parent expectations and locus of control for success. Parental reactions and locus of control for failure variables were included in the discriminant scores but they did not differentiate between the two groups. It appears that the identification of students as having high or low academic self-concepts as measured by the SPAS does give an indication of a student who also has high or low self-expectations, high or low teacher expectations, high or low parent expectations and the ability or inability to take responsibility for academic success.

The discriminant scores confirm that when SPAS is not included as a variable, group differences are present which maintain separate group

Figure 2



Low Group Mean ($\bar{X}$) = 18.37

SD = 2.57

High Group Mean ($\bar{X}$) = 25.05

SD = 3.05

identities. Hypotheses 2.1 and 2.2 which dealt with the interrelationships of significant variables and group differences on the variables when SPAS was not included, have been investigated. The two hypotheses were closely linked and the presentation of the results could have been reversed to correspond more closely to the different aspects of the hypotheses.

Analysis of SPAS 1978

Product-moment correlations were calculated for the relative impact of the variables of academic self-concept, report card grades, self-expectations, teacher expectations, parental expectations and reactions and locus of control on the academic self-concepts of the extreme groups in 1978. These correlations were calculated to answer the question of the stability of "extreme" academic self-concepts over time. The criterion level of .30 was again considered to have statistical and psychological significance ($p < .05$). The groups were combined for these correlations in Table 12. A comparison of the point-biserial correlation coefficients in Table 11 and these correlation coefficients in Table 12 indicates that the coefficient differences are minimal. Point-biserial correlations are also product-moment correlation coefficients.

A multiple regression analysis which was based on these product-moment correlations and an analysis of variance was conducted to determine which of the correlations were most predictive of academic self-concept in the following year. Since multiple regression analysis should be based on much larger samples than were used in the present study, the results are to be considered as giving no more than an indication of pre-

Table 12

Product-Moment Correlations for SPAS High-Low Scores, Report Card Grades, Expectations, Reactions, and Locus of control in '77 and SPAS Scores '78

	SPAS Scores '77	Self-Expectations	Teacher Expectations	Parent Expectations	PRQ+	PRQ-	IAR+	IAR-	Report Card Grades '77	SPAS Scores '78
	1	2	3	4	5	6	7	8	9	10
1	-	.643*	.504*	.472*	.194	-.217	.505*	-.178	.615*	.546*
2		-	.454*	.410*	.110	-.135	.409*	-.194	.466*	.451*
3			-	.403*	.048	-.105	.284	.045	.715*	.487*
4				-	.226	-.227	.289	.065	.624*	.286
5					-	-.938*	.017	-.103	.149	.038
6						-	-.002	.072	-.200	-.071
7							-	.092	.364*	.337*
8								-	.111	-.033
9										.519*

*significant effect

diction. The product-moment correlation matrix will be the basis for most of the discussion of '78 SPAS scores.

There were 87 students included in this aspect of the study. Of the original High group, there were 50 students available in 1978 and of the Low group, there were 37 students available. A number of 6th. graders had moved to junior high schools and were not readily available for the 1978 study.

Table 12 indicates that the variables which correlated most highly with SPAS '78 scores were the SPAS '77 scores ($r = .546$; $p < .001$) and the report card grades ($r = .519$; $p < .001$). Self-expectations and teacher expectations correlated moderately with SPAS '78 scores (r's = .451; p .001 and .487; $p < .001$). Locus of control also correlated moderately ($r = .337$; $p < .001$). The same variables which were found to differentiate these groups in the discriminant function analysis and the analysis of variance designs, also are correlated positively with the academic self-concepts in the following year. Parental expectations failed to reach the criterion level for SPAS '78 scores and parental reaction did not contribute at all.

It appears from these correlations that academic self-concept extremes are relatively stable in that high academic self-concept and low academic self-concept children tend to continue to hold these positive and negative views of their academic ability in the next year. Whether report card grades make a greater contribution than academic self-concepts or other affective variables from one year to the next in the maintenance of academic self-concepts, cannot be determined from these correlations. The relationships appear to be reciprocal in that the correla-

tions are all relatively similar. No one correlation coefficient is strikingly more similar than the others.

To determine which variables are most predictive of SPAS '78, an examination of the Table 13 multiple regression analysis indicates that the variables of SPAS '77 and teacher expectations contribute most to the stability of academic self-concepts. The amount of variance accounted for by these variables is 35.869%. SPAS '77 accounted for 29.8% of the variance and teacher expectations contributed an additional 6.028% in prediction possibilities. No other variables contributed at the designated significance level of .05 to the prediction possibilities for SPAS in the next school year. If the regression analysis can be said to have any validity for these extreme groups, then it appears that academic self-concept extremes do have a greater influence on the perpetuation of academic self-concepts than report card grades. When all the common variances are accounted for, the SPAS '77 and teacher expectations appear to indicate greater predictability.

It should also be noted at this point that SPAS '77 failed to account for 70% of the SPAS '78 scores. The stability of extremes in SPAS scores may therefore be considered to be somewhat questionable.

The last of the hypotheses have been investigated. Numerous analyses have in essence established the same results. The multiple regression analysis has contributed to these results by establishing that academic self-concept is relatively stable for about 30% of the children in the extreme groups and that teacher expectations appear to contribute to this academic self-concept stability also.

Table 13

Regression Analysis: Best Predictors of SPAS '78

Criterion: SPAS '78

Predictors: SPAS'77, Report Card Grades '77, Teacher Expectations, Parental Expectations, Self-Expectations, IAR+, IAR-, PRQ+, PRQ-

Variable	Variance Accounted For	p
1. SPAS '77	29.841	.000*
2. Teacher Expectations	35.869	.000*

*designated significance level was .05 but no other variable contributed at the $p < .05$ level to the regression equation.

CHAPTER V

DISCUSSION AND IMPLICATIONS OF RESULTS

This section will integrate the findings in the previous chapter with the research and descriptions of the differences between children with extreme academic self-concepts. After an initial discussion of the differences between the groups of children with high and low academic self-concept differences, the variables of report card grades, self-expectations, teacher expectations, parent expectations, parent reactions and locus of control will be discussed separately. The discussions of these variables will focus on their relative merits and impact on academic self-concept extremes.

In examining the implications of the results, the discussion will concentrate on the legitimacy of academic self-concepts and/or other affective variables as affective entry characteristics which have an influence on academic performance differences in the classroom.

Extreme Academic Self-Concept Groups

The original purpose of the present study was to investigate the affective variable differences between children with a high and low academic self-concept. The context in which academic self-concept was stated to be formed and maintained involved report card grades, self-expectations, teacher expectations, parent expectations, parental reactions and the child's locus of control for successes and failures in the academic situation. These variables were considered to be entry characteristics for the elementary school child which contribute significantly to differential achievement levels and academic self-concept

differences.

Children with high academic self-concepts were initially seen to be very positively oriented towards their abilities in all school subjects and more pervasive attitudes towards school. Children with low academic self-concepts were seen to be considerably less optimistic about their abilities in school subjects and seemed to be generally more negative towards school. Low academic self-concept boys were thought to be the most dissatisfied with school. Bloom (1976) spoke of the generalization of affect in school attitudes for those who have a low concept of their academic abilities. Chapman (1979) also found that negative attitudes towards school and ones academic abilities are already established by grade 3. The present research confirms Chapman's findings and Bloom's assertions. Positive and negative academic self-concepts are school-specific although they do affect more pervasive attitudes towards school and there are definite extremes in positive and negative academic self-concepts by the time children are in grade 3.

The context in which academic self-concept is formed does not appear to include a general self-concept. Bloom had spoken of the academic affect becoming generalized to feelings of an exaggerated or diminished self-worth(1976). High and Low academic self-concept groups were not significantly different on the general self-concept scale. Differences between the two groups also did not involve differences in I.Q., age, or socio-economic status.

The differences between the two groups primarily involved the variables of the report card grades, self-expectations, teacher expectations, parent expectations, and locus of control for success in school. High academic

self-concept children receive consistently higher report card grades than low academic self-concept children. Low academic self-concept boys were generally the lowest in report card grades. Girls in both high and low academic self-concept groups generally had higher report card grades than the boys in their respective groups but were significantly higher in the subjects of Language, Arithmetic and Social Studies. These findings are consistent with the research that girls tend to do better than boys in the elementary school (Banks, 1968).

The more frequent identification of boys as experiencing learning problems tends to be confirmed with the low academic self-concept boys receive lowest grades. It is suspected that a number of these low academic self-concept boys are experiencing some specific school-related problems which form the context of their low academic self-concepts and their dissatisfaction in school. A later investigation of the 31 boys in the Low academic self-concept group indicated that 11 were in a resource room at the time of the present study. Only 3 of the 22 Low academic self-concept girls were in the resource room at that time. Although there were a few students from the High academic self-concept group in the resource room for various problems, the number was considerably less (3). What is interesting to note here is that not more of the Low academit self-concept children were placed in resource rooms for remediation. These children had been assumed to have average or above average ability so that they would have been expected to be able to handle the school work. Their low academic self-concepts, however, indicate that something is awry in their adaptation to school and the specific subjects. Yet, their absence in the resource room possibly indicates that

they have not been diagnosed as in need of additional assistance in the form of resource room placement. Their lower report card grades may not be low enough to justify remediation.

The affective characteristics which differentiated the extreme groups most clearly were the expectations of self, teachers and parents. High academic self-concept children experienced consistently higher expectations of their academic possibilities from self, teachers and the parents. The psychological appraisal of the school context favors the high academic self-concept child (Coopersmith, 1967). The child not only expects to do well in the classroom, but the teacher and parents expect the same kind of high standards of performance from the child. The objective appraisal of the report card grades serve to be consistent with the expectations.

Low academic self-concept children have consistently lower expectations of themselves, as do their teachers and their parents of them. Teachers' and parents' expectations are congruent with the low academic self-concept child's academic performance but they are not correlated significantly with each other or with the self-expectations. These children do not appear to be able to discern the cues from teachers and parents which will enable them to assess their academic performance more accurately at the time of their identification as low academic self-concept children. Parental expectations tended to be lowest for the low group boys.

The consistent feedback of which Bloom (1976) spoke appears to be a process which works for the benefit of the high academic self-concept child but is a less consistent and congruent feedback process for the low academic self-concept child. Thus, although the low group child

does experience lower expectations of self, teachers and parents, his/her perception of these expectations may have some variations and inconsistencies which also serve to affect the perceptions of the capabilities the child has. The child who perceives that the teacher has low expectations which are not necessarily matched with low parental expectations, has difficulty deciding what to expect of self.

Another affective characteristic which differentiated significantly between the two groups was the locus of control for academic success. High academic self-concept children were more able to accept responsibility for their success in school than low academic self-concept children. No doubt, the more frequent experience of academic successes has enabled these children to expect success more frequently in the future and to believe that his/her performance is better than others (Weiner, 1974). The identification of high academic self-concept children as having very positive attitudes towards their academic abilities also serves to confirm the notion that these children are more predisposed to take responsibility for their academic performances than those who have a low assessment of their abilities (Chapman & Boersma, 1979). Whether control for success contributes to high academic self-concepts or is the outcome of positive appraisals could not be answered in the present study nor was that the intent of the study.

High and low academic self-concept children were not found to be distinguishably different in their ability to accept responsibility for failure in academic performances. Contrary to the research by Covington et al.(1976) low academic self-concept children who do experience failures more frequently are not more external than high academic self-concept

self-concept children in attributing their failures to teacher mood, task difficulty or bad luck. They also do not attribute their more frequent failures to the internal causes of a lack of ability or effort. It had been expected that the latter would be true by virtue of the low academic self-concepts these children admittedly had.

Contrary to the hypothesized differences in parental reactions to the children's academic performances, high and low academic self-concept children did not experience more or less positive and/or negative parental reactions. Chapman (1979) used similar instruments and variables with the learning discabled and "normal" school children and he did find that the mothers of the learning disabled were more negative in their reactions. The difference between Chapman's samples and the two extreme groups used in the present study may be attributed to the observation that the low academic self-concept group was achieving at an average level and most likely these children's performances do not elicit explicitly negative parental reactions. The report card grades may be quite satisfactory fot the parents, especially since the parents of low academic self-concept children did have lower expectations.

In summary, each group is distinct in terms of the variables of the report card grades, self-expectations, teacher and parent expectations and locus of control for academic success. High academic self-concept children, in comparison to low academic self-concept children, are given consistently higher report card grades, teacher expectations and parental expectations and hold higher expectations for themselves as well as feeling more responsible for their successes. Low academic self-concept children have lower report card grades and expectations and attribute their successes more readily to luck than to ability and/or effort.

High academic self-concept children experience a greater consistency of report card grades, expectations and control than low academic self-concept children. Low academic self-concept children's academic epectations failed to correlate significantly with report card grades although the expectations of their teachers and parents were correlated significantly with their achievements. Statistically nonsignificant correlations between teachers' and parents' expectations also suggest that these low academic self-concept children are not receiving the same performance demands from their significant others. The messages which they are receiving from parents and teachers about their academic performances are more dissimilar for low academic self-concept children than high academic self-concept children.

Affective and Achievement Characteristics

Academic performance, as measured in report card grades at the end of the school year, was shown to be significantly different for students in the extreme groups. High academic self-concept children received consistently higher grades in all subjects than low academic self-concept children. In both high and low groups, girls tended to do better than boys on Language Arts, Arithmetic and Social Studies.

Report cards generally represent an index of the level of academic performance of the student in relation to others. Bloom (1976) had indicated that these public assessments of ones standing in relation to others do more to build up/break down self-perceptions of ability than daily classroom interactions of praise and/or punishment. Although the cumulative impact was not assessed in the present study, there are indications this may be true for the low group child. Report card grades weighed more heavily than the affective variables with academic self-concept for low group children

($r = .264$), even though it failed to reach the criterion level. When the two groups were combined in the point-biserial correlation matrix, academic self-concept correlated quite highly with the report card grades ($r = .615$, $p < .001$) although not higher than the affective variables of teacher and parent expectations.

As cognitive entry characteristics, report card grades may be a good indication of "real" differences in ability between these groups of students, regardless of their previously assessed similarities in verbal, non-verbal and numerical reasoning abilities (as measured in I.Q. scores). The use of full scale scores of the I.Q. tests obscured any verbal/non-verbal differences which may have been prevalent in these groups. As an assessment of "general intelligence", the Otis-Lennon and Lorge-Thorndike are not as sensitive to the varieties of abilities which may be reflected in the teachers' grades. Since few of the children in the low group were placed in the resource room for remediation, it may be assumed, however, that the possible range of differences in school-related abilities between the groups were not extreme enough to indicate the need for remediation for low group children.

The two variables of academic performance assessments and report card grades do provide consistent feedback for the individual. The student who comes to expect success, experiences success and continues to expect it. The student who comes to expect failure, experiences failure more frequently and sees self as lacking in ability to succeed (Brookover et al., 1967). Lacking the self-confidence and the perception of ability to possibly succeed, the school tasks which must be completed are experienced as increasingly unpleasant. A dissatisfaction with school results when low academic self-concept boys also perform less well academically. The apparent vicious cycle is not necessarily continued in the next school year. Changes in the

teacher, class, school and tasks may work in the favour of the low academic self-concept children. With only 30% of the variance in SPAS '78 scores accounted for by previous extreme SPAS scores, it seems reasonable to assume that 70% of the High-Low group students do not maintain their positive or negative academic self-concepts in the following school year.

The present study does confirm the sex differences which Kifer had hoped to establish (1975). Contrary to the stereotypical image, girls received higher grades in Language Arts, Social Studies and Arithmetic. No discernible pattern is present in those subjects which would explain the sex differences in terms of verbal fluency. The explanation also cannot be found in terms of consistencies in subject performances with academic self-concepts for specific subjects or self-expectations, teacher and parent expectations. Sex effects were not evident in the self and teacher expectations which would explain report card differences for boys and girls. Parental expectations were generally higher for daughters than sons, but these expectations were not consistent with performances. Parents expected their daughters to do better in Language Arts, Arithmetic and Social Studies.

Subject sex differences in parental expectations may be less subject specific than sex specific. In recent interviews with parents on their expectations for sons and daughters in grade three which were conducted by the present researcher, it became clear than many mothers did not fully understand what was involved in the subjects of Language, Science and Social Studies. When in doubt, parents assumed the daughters would do better.

The present study indicates that high academic self-concept children do better in school than low academic self-concept children. There are also indications that boys tend to do less than girls generally. Further study is necessary to determine whether and/ or how extreme academic self-

concepts with the accompanying "extreme" academic performances, affect the academic performance in the following year. The present study did not pursue the high and low academic self-concept children's academic performances in the following school year.

Academic Expectations

Although high and low academic self-concept chilfren were observed to be distinct groups in terms of higher and lower self-expectations, these self-expectations were not necessarily consistent with their academic self-concept and the expectations of teachers and parents.

Self-expectations are a gauge of the feedback processes between the child and the environment. Cooper (1979) clearly illustrated how self and teacher expectations become consistent through differential reactions, interactions, perception of teacher control, praise for effort vs. praise for external controls, and teacher enjoyment. According to Cooper (1979) teachers perceive students to be high or low performers on the basis of ability and/or background and/or initial effort. Student achievement levels come to be influenced by these differential perceptions. The High and Low academic self-concept students, however, were originally selected to come from the same socio-economic backgrounds and ability levels (as measured in I.Q.). Student self-expectations are correlated highly with academic self-concept groups but within each group there do appear some differences. The low academic self-concept child does not have self-expectations which correlate significantly with teacher expectations or parental expectations. The lower control which Cooper (1979) perceived to be evident in the low student-teacher interactions

may be related to the public/private situations in which academic self-concepts and self-expectations are formed. Cooper(1979) reported that teachers felt they had less control over the public interactions of the low students but greater control over the private "tutoring" type situations with these students. In the public exchanges, it may be that the low academic self-concept child feels that he /she is able to do things whereas in the private exchanges the teacher is the source of success. The more public the child expresses self the less he/she feels that the expectations of self should be lowered or raised. The more assistance the teacher gives the child, the lower the perceptions of ability may become as the child realizes assistance is required frequently.

For the low academic self-concept child, the inability to predict report card grades accurately for the end-of-the-year ($r = .264$) and the inability to perceive the teachers' expectations accurately ($r = .043$) as well as parental expectations ($r = -.141$) may result in a confusion which confirms the expectations of others in more frequent failures and less effort. The expectations they have set for themselves are not necessarily affected. " ... An internalization of self-blame and defeat, rather than a modification of the inapproprtiate standards they have set for themselves (Covington et al., 1976, p.41) may result.

Since the expectations were, however, significantly lower for Low group than the High academic self-concept group, it is more likely that these children have not set inappropriately high standards for themselves, but that they have modified their standards to be unduly pessimistic in terms of the assessments of their abilities. The greater amount of teacher-controlled private interactions may have caused them to lower

their expectations for success too pessimistically. For the combined groups in the point-biserial correlation matrix, self-expectations correlated lower than teacher and parent expectations with report card grades.

The lack of apparent congruency in teachers' and parents' expectations for low academic self-concept children illustrates that the feedback process between these children and their environment may be rather faulty and not constructive for the child. Teachers' and parents' were moderately consistent with each other on the total group matrix and the high group correlations but they were not correlated for the low group children. Parents were generally more optimistic than teachers.

For the low academic self-concept child, the differences in teachers' and parents' expectations may mean that he/she is receiving different cues as to performance levels from the teacher and the parent. The child who is criticised in the classroom for his/her work and praised in some measure by the parents for the classroom work, may be confused as to knowing what to expect in future performances. Few mothers perceive their children to be below average and they are not likely in agreement with their children's expectations or the teachers' assessment of the child. The parents are aware of teacher expectations as transmitted via report card grades but those expectations may be seen as limited to the particular teacher so that in the future, parents may have different expectations for their children (Coopersmith, 1967; Entwisle et al. 1978). Thus, when parents are asked to assess their children's performances in the following school year "when they are older" their expectations may be less consistent with the teachers' and children's expectations.

Teachers' expectations are considered to be more consistent with the child's present performance. It seems reasonable to assume that few teachers would expect to find "late bloomers" in the classroom.

The greater correlation of self-expectations with teachers' and parents' expectations in the high academic self-concept group lends some credibility to the notion that these children are experiencing a congruency of expectations which encourages their academic output. The lack of significant correlations of self-expectations with teacher and parent expectations in the low academic self-concept group, suggests that these children experience less consistency as well as lower incentives for academic performance from the significant others since they were subject to lower expectations. Chapman (1979) suggested that the weak relationships between self-expectations and the expectations of significant others were to be attributed to the learning disabled' inability to express themselves verbally. Chapman's suggestion is not necessarily applicable to the low group children since they were not predominantly learning disabled as a group. It is possible that these children do communicate less with the significant others, especially since they appear to be somewhat more dissatisfied with school.

To summarize, it is evident that low academic self-concept children do not estimate their report card grades accurately. Teachers and parents of low academic self-concept children are able to assess the child's performance in a given school year quite accurately but their expectations are only minimally related to each other and the child's expectations. Parents' expectations of low group girls were lower than their expectations of high group children when boys and girls were combined but were actually quite similar to the expectations of parents for high group boys. Low group boys experienced considerably lower parental expectations. Teachers' expectations were shown to be different for the boys and girls but they were lower than parental

expectations for the groups.

Teachers' expectations are, not surprisingly, highly correlated with report card grades at the end-of-the year and parents are also more keenly aware of the teacher criteria for grades than all the children.

Parental Reactions

The inability to confirm that a meaningful relationship exists between parental reactions and affective and achievement characteristics, need not necessarily indicate that parents do not react differently to their children's successes and failures. It does indicate that the samples of High and Low academic self-concept groups are different from the samples of learning disabled in Chapman's (1979) study. He found that the parents of learning disabled children were generally more negative in their reactions and parents of the control group were more positive in their reactions.

The lack of confirmation of differences between groups may indicate that the failures which we have assumed the low academic self-concept children experience are only failures relative to the high academic self-concept children. On the five-point metric scale which was used for each subject, the low academic self-concept children did receive a minimum average of 3 for each subject. These low academic self-concept children are receiving average grades whereas the high academic children with a mean of 4, received superior grades.

Average grades are not necessarily failing grades unless expectations are unrealistically high. Since parental expectations were lower for the low group children, it may be assumed that the parents would not react as negatively to average performances as they would react to those learning disabled who are not performing at average levels in the subjects for which

they receive resource room instruction. Chapman (1979) reported lower specific subject means for the LD students in grades 3 to 6 than for the students in the present study of High and Low academic self-concept groups. Control group means in Chapman's study were also generally lower than the High academic self-concept group's means.

Locus of Control

The high academic self-concept child's ability to accept responsibility for academic successes is to be interpreted as a positive incentive in the child's academic career. Perceiving that he/she has control over the rewards received, gives additional reason to maintain the behaviour which affects academic performance (Crandall, Katkofsky & Crandall. 1965). In view of the higher academic performance, more constructive self-appraisals of ability, higher self-expectations, teacher and parent expectations, the internal control for success in the high group child is to be viewed as a positive characeristic. For these children, success breeds success and the behaviour which tends to repeat sucess. Success which is ascribed to self is attributed to a stable cause which tends to continue to build up self-expectations and those of others (Weiner, 1974).

Contrary to the stated expectations that low academic self-concept children would be internal with respect to failures, no differences were found between these two groups on this continuum. Even though these children do have lower academic self-concepts and lower self-expectations,it is not necessarily true that they experience failures. They may experience less recognition for being the best in the class but this is not attributed to their own lack of ability or effort than the high group children. These low academic self-concept children cannot be typified

as exhibiting "learned helplessness" in terms of Weiner's description of those who atribute failure to low ability. The findings in the present study support Chapman's research in that he also found no signficant difference between LD and control children on the internal/external dimension of control for academic failures.

Implications of Results

The present study was initially conducted in response to the question why students are sometimes so inaccurate in predicting their end-of-the year report card grades. The student who shyly approaches the teacher in June to ask if he/she has passed when all grades indicated no reason to expect failure remains somewhat of an enigma, though less so than before this study was undertaken.

Academic self-concept which is " the manner in which an individual describes him/herself as unique among others in terms of interactions and performances on school tasks" (Chapman,1977) tends to be formed in response to the latent curriculum in the classroom of self and teacher expectations and the expression of parental expectations at home. The academic self-concepts tend to be school-specific and not generalized to feelings of self-worth as in a general self-concept. Embedded in the school situation, they do, however, influence and affect school performances as to the actual grades the children receive, the expectations they come to hold for themselves, and the expectations which they experience from the teachers and parents. Academic self-concepts, which tend to be formed in the first two years of school continue to develop and also affect the school learning as an affective entry characteristic.

The present study indicated that in groups of children who hold extremely positive or negative academic self-concepts, these self-concepts are related signficantly to academic performance in that they are able to predict report card grades almost as well as teacher and parent expectations. Whether academic self-concept (as measured by SPAS) is a better indicator of the affective entry characteristics than other affective variables was not determined in the present study.

In the extreme groups, academic self-concept is less stable than in the total school population. SPAS '77 correlated moderately with SPAS'78 in the extreme groups whereas it correlated highly in the population of 429 ($r = .546$ vs. $.755$). The child with a high academic self-concept does not necessarily have as optimistic a view of self in the next year. The change in peers, class structures, teacher expectations and self-expectations may modify these extremely optimistic views. Teachers do react differently to various students and report card grades do give the child feedback as to the accuracy of his/her optimism. New students in the class do change peer relations and new schools bring expectations also.

Similarly, the child with a low academic self-concept does not necessarily have as extreme a negative view of self in the next year. The inconsistencies which the child may/may not have experienced may be more aligned with reality. The negative view may not be supported or continued in teachers' and parents' expectations in the next year. With increasing maturity, the inability to accept responsibility for success may stimulate a greater belief in personal control over public and private exchanges in the classroom.

In attempting to control for the variables of I.Q., age, socio-economic

status and general self-concept, the number of variables which could be contributing to possible group differences was by no means exhausted. Different schools were involved in the selection of students-schools which have been described as consisting of very different approaches on the authority/structure continuum. A number of classes were involved with different teachers and a few classrooms seemed to contain a disporportionately large number of children with extreme views.

The issue of what contributes most meaningfully to academic self-concept differences is by no means closed. Questions as to the continuing influence of academic self-concept extremes on academic achievement still need to be researched further. A study by Chapman, Cullen and Boersma(1979) indicates academic self-concepts contribute significantly to report card grades in subsequent school years. One could assume that similar results would be obtained for these extreme groups unless the conditions which perpetuate the academic self-concept extremes are removed.

For the teacher and parent who is aware in a given school year that extremely negative academic self-concepts are maintained by some who have an apparent ability to do all right in school, the implications of these results call for a greater awareness of these extreme views. The conditions which appear to promote these extremes in academic self-concepts involve the expectations by self for failures/ successes relative to others, the high/low teacher expectations for the child's academic performances and the high/low parental expectations. The emphasis in the discussion will be on those with extremely negative academic self-concepts since they are the ones with the greatest discrepancy between ability

and self-concept and performance.

If academic self-concepts can be raised by increased positive teacher-student interactions, teacher expectations, parental expectations, and a less public display of indicating where children stand in relation to their peers, then the child's academic performances may very well illustrate the effects of these increases. The emphasis today in the schools on affective education to increase a child's sense of self-worth through programs like DUSO, Magic Circle and other affective education programs will not necessarily affect the child's functioning in the classroom situation of effort and performance in specific school subjects. To increase the child's effectiveness in the classroom it may be necessary to raise the levels of academic self-concepts and expectations. Through the use of SPAS the extremes do become apparent. The question today should not be whether to return to the basics of reading, writing, and arithmetic, but how to increase a child's awareness of abilities in those subjects to increase performance levels.

Bloom's assertions may be considered to be too extreme when he states:

> ...under ideal conditions, the combinations of all three variables, i.e. cognitive entry characteristics, affective entry characteristics and quality of instruction, could account for as much as 90% of the variation of a group of learners when under the most favourable conditions, should show only 10% of the variation of a group under less favourable conditions (p.174).

For some, the school is believed to be the best societal vehicle for the perpetuation of a stratified society (Dreeben, 1968). Bloom's (1976) mastery learning techniques are attempts to discontinue the stratifications in the classrooms of those who can vs. those who cannot. Whether or not one believes that there are always going to be those who cannot learn in a classroom who will then perpetuate the useful lower strata in society, it seems unremittingly harsh to accept the status quo of classroom societies and

to have children in elementary schools already experiencing such self-views which are not constructive or helpful in their school tasks but make every new task a burden rather than a pleasure.

Any "functionally limiting threshold variable" (Brookover et al., 1975) which is a barrier for the child to begin to gauge his/her potential more accurately should be removed from the classroom situation. For the children with extreme academic self-concepts, this affective entry characteristic does appear to account for up to about 25% of the variance in report card grades. That kind of variance in academic performance does mean that the child's cognitive entry characteristics in the following year have been limited by these affective entry characteristics. Feeling incompetent in arithmetic and consequently hating arithmetic tasks would limit the skill competency the child acquires in that year. The child's right to an education should be the right to a development of potential without the artificial barriers of teacher expectations, parental expectations and inaccurate self-perceptions. If parents and teachers could be made more aware of how their differential perceptions are transmitted in their reactions, then these expectations will no longer be obstacles for the low academic self-concept child but they may become more genuinely realistic assessments of the child's abilities.

Limitations and Suggestions

Academic self-concept has been shown to be an affective entry characteristic for children who hold extremely high or low academic self-concepts. Although extremes in academic self-concepts have been shown to be accompanied by similar extremes in self-expectations, teacher expectations,

parental expectations and responsibility for success in school, the present study did not determine the long-range effects of academic self-concepts on academic achievement. Further research is necessary with these extreme views to determine how/whether academic self-concept extremes continue to function in setting the limits of performance.

The maintenance of academic self-concept extremes was demonstrated to some extent in the present study. Whether academic self-concept is formed as a result of the interactions of affective variables and report card grades was not established. The research concentrated on those children in grades 3 to 6 who already had extremes in academic self-concepts. Research with younger children as Entwisle and Hayduk (1978) did would have to be conducted with academic self-concept development. Boersma and Chapman have already begun some of this research.

The scope of the present study may have been too expansive in the use of numerous variables and topics. The use of new instruments such as the SPAS and the PAPS in the same study complicated some of the findings in that the total population from which these extreme groups were drawn also formed part of the basis for the SPAS and PAPS validity and reliability studies. An analysis of these variables on groups which are independent of the normative sample would be recommended.

The choice of extreme groups was based on the SPAS which was also used to substantiate the claims of the development and mainteneance of academic self-concept. Some cyclical research appears to be indicated here. Extreme groups are a valid method to study group differences in a longitudinal study but when the extremes are based on the SPAS to determine the relationship of SPAS to correlated variables, the use of

extreme groups may be questioned. As a post facto research, the designs were often instituted to confirm that which was known.

Questions were not answered definitely as to the legitimacy of Bloom's concept of affective entry characteristics as a relatively stable characteristic which affects the subsequent performances and is perpetuated in the classroom context to become a personal characteristic. Bloom has been the pivotal force in most of the present research and in a sense, the relevance of the present study falls or stands with Bloom.

The questions which have been left unanswered revolve around the variance which could not be accounted for in the report card grades by the analysis of the affective characteristics. Were there "real" differences in ability which were not accounted for by the I.Q. scores? Were these children as homogeneous as they appeared in age, socio-economic status and general self-concept measures? With only mothers reporting the relevant data, were fathers' roles to be discounted and possibly clouding the issues? Nothing was known at the time of the children's respective roles in the family constellation - information that may be crucial in determining group differences.

The present study has illustrated that nothing is as simple as it may seem at first glance. The complexities of the interactions, perceptions, expectations, and reactions have been assessed to some degree but with a growing awareness of the inability of any one study to answer all questions comprehensively.

A number of extensive statistical tests were conducted to the extent that one could argue that the data was over-analyzed. Statistical tests can be tools which provide us with indicators and as long as we are aware

of the limitations of these indicators in the extreme groups with the correlational data and the limited number of subjects for the multiple regression analysis, they can continue to serve us. It is difficult to find "hard" evidence for most of the assertions which have been made in the present study. Conceptually,many of the assertions are coherent and the statistical designs indicate where we may be on the right track.

In conclusion, it appears that academic self-concept can be measured meaning fully with the SPAS. Little overlap is evident between the SPAS and general self-concept measures such as the Piers- Harris. Utilization of the SPAS in the classroom/ counselling situation could help to locate specific difficulties the child may have in school with the subjects, general school attitudes, teacher relationships, parental expectations and self-expectations. Where the SPAS would indicate inconsistencies with academic self-concept and academic performance, the teacher/counsellor should probe as to what the expectations are of the student, the teacher and/or the parent. Where the SPAS indicates consistencies with academic performances and the student appears to be functioning below ability, intervention techniques should consist of raising the child's academic self-concept.

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Appendix A

Means and SDs of the High and Low Groups on Otis-Lennon, Lorge-Thorndike I.Q.

Variable	High Group		Low Group			
	Mean	SD	Mean	SD	t	p
I.Q.	113.02	6.49	112.34	8.07	.50	n.s.

Appendix B

ANOVA Summary Data for Piers-Harris Subscales for High-Low Groups and Sex

Scale	Source	df	M.S.	F-Ratio	Probability
Behaviour	A (Group)	1	1.102	0.084	0.772
	B (Sex)	1	3.617	0.276	0.601
	AB	1	0.242	0.018	0.892
	Errors	111	13.125		
Intellectual and School Status	A (Group)	1	5.328	0.396	0.531
	B (Sex)	1	1.668	0.124	0.726
	AB	1	3.875	0.288	0.592
	Errors	111	13.469		
Physical Appearance	A (Group)	1	1.429	0.154	0.695
	B (Sex)	1	2.359	0.254	0.615
	AB	1	8.433	0.909	0.342
	Errors	111	9.276		
Anxiety	A (Group)	1	0.750	0.097	0.756
	B (Sex)	1	0.125	0.016	0.899
	AB	1	2.894	0.374	0.542
	Errors	111	7.735		
Popularity	A (Group)	1	1.801	0.189	0.665
	B (Sex)	1	7.648	0.800	0.373
	AB	1	3.644	0.382	0.538
	Errors	111	9.552		
Happiness	A (Group)	1	10.290	0.938	0.335
	B (Sex)	1	8.711	0.794	0.374
	AB	1	12.000	1.092	0.298
	Errors	111	10.966		
Total Scale	A (Group)	1	5.750	0.031	0.860
	B (Sex)	1	18.188	0.099	0.754
	AB	1	66.188	0.358	0.551
	Errors	111	184.596		